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East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

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18 June 1985

EAST EUROPE REPORT

ECONOMIC AND INDUSTRIAL AFFAIRS

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INTERNATIONAL AFFAIRS

POLISH-GDR TRADE, COOPERATION DISCUSSED

General Possibilities

Warsaw ZYCIE WARSZAWY in Polish 29 Jan 85 p 5

[Article by Regular correspondent Eugeniusz Waszczuk: "The Difficult Road of Cooperation"]

[Text] Berlin, January. On the basis of some numbers and percentages, it can be said that cooperation between Poland and the GDR in the field of specialization and cooperation in manufacturing is developing well. For example, the trade agreement for the current year established an increase of 11 percent over last year in reciprocal deliveries of specialized goods. Nevertheless, the current state and rate of development in industrial cooperation between the two countries can hardly be considered satisfactory.

The advantages stemming from specialization and cooperation in manufacturing are obvious. They free the individual countries from the need to repeatedly produce many products in short, expensive series, enable more complete utilization of potential for selection, and deepen economic cooperation. Therefore it was decided long ago, more than 15 years ago, to develop specialization and cooperation in production between the industries of Poland and the GDR.

According to the assumptions of the 5-year plan for 1976-1980, by the end of this period specialization and cooperation turnovers were to exceed 30 percent of all trade turnovers between the two countries. In practice the 20 percent level was barely exceeded in 1970, the best year from this viewpoint. Regression occurred in later years.

Not until 1983 was there definite improvement in the development of economic cooperation between Poland and the GDR, an increase in trade turnovers. This trend was reinforced in 1984. The current year also presages further progress, and the mutual turnovers will reach 2 billion rubles for the first time. There will also be improvement in the field of specialization and cooperation. However, this will be numerical improvement compared to a reduced level. In past years many cooperative agreements lapsed, and therefore it is now necessary to make great efforts to deepen and expand this form of cooperation, beneficial for both partners.

The situation in various sections of the economy is not uniform from this point of view, which would indicate both different needs and opportunities, and might also indicate a difference in activity on the part of workers in individual sectors.

Therefore the situation is improving faster in some fields than in others. Positive examples include, for instance, an increase in imports this year from the GDR of machinery for the Polish food industry from 5.7 million to 9.3 million rubles, or 63 percent, industrial fittings by 44 percent, various types of construction machinery by 28 percent, a considerable increase in supplies of machine tools for metals, and agricultural, textile and printing machinery, hydraulic equipment, roller bearings, trucks up to 3 tons (Robur), oil heating apparatus and medical technology products based on radiation and electronics.

This year the augmented specialization list of exports from Poland to the GDR also includes machinery and equipment for the food industry, an increase from 2.7 million to 5 million rubles, or 87 percent, machine tools for metals, textile, agricultural and construction machinery, bearings, industrial fittings, trucks (Jelcz) and so forth.

Specialization and cooperation between Polish and GDR industry include several scores of working groups. Here are some examples of the most active groups.

At its latest meeting in October of last year [1984], the machine tool industry group, in which our central METAEXPORT foreign trade office is represented, established the program of a reciprocal turnover structure for the coming 5 years. On the Polish side the proposal includes specialization in the production of single-spindle automated lathe apparatus, copy lathes, heavy lathes, lathes for railroad axles, hydraulic presses, rollers, and so on. An agreement on specialization and cooperation for the next 5 years will be concluded in the first half of this year, after a comparison of these proposals with offers on the GDR side.

In the railroad rolling stock group, in which the Polish KOLMEX is represented, supplies from the GDR to our country include double-decker passenger cars, sleeping cars, diners, wheel sets and spare parts, while car and container elements will be coming from Poland. The agreement on this matter is to be signed by the end of February this year.

In highway and construction machinery (with our BUMAR), the GDR side is proposing deliveries of excavators, steam rollers, concrete mixers and concrete pumps, while the Polish side is offering other types of excavators, a different kind of loader, asphalt heaters, equipment for mineral wool and gas concrete, and presses for limestone quarries. Both partners are to jointly solve problems in the production of hydraulic equipment and high-pressure pumps, as well as in modern welding technology, within the framework of scientific and technological cooperation.

Likewise the working group for matters of metallurgy, represented on the Polish side by STALEXPORT, is dealing with many common topics, for example, with the problem of improving the quality of charging materials for the production of

pipes, intensification of precision pipe production and the quality of insulating products in iron and steel metallurgy. One of the problems faced in non-ferrous metallurgy is the use of microelectronics and robots. A multiyear specialization agreement is to be signed soon in this sector.

The highway vehicle group is working most actively. This may be because an exceptionally large number of new plants have been erected in this sector in Poland in recent years. Therefore there is a great production capacity which can satisfy more than our own needs.

Among other things the Polish side is offering heating equipment (factory in Lesko), axles from the factory in Sanok for the Ludwigsfelde factories, tanks from Kielce, seats for tractors, wheels from Lublin, dampers from Krosno, brake sets and pneumatic systems and springs from Praszka, brake linings and electro-technical equipment, drawpieces from Trabant, stoves from Kalisz and so on. The GDR side is preparing its bid, and a specialization agreement will be signed shortly for the period up to 1990.

The rather expansive list of examples of specialization and cooperation may suggest that a great deal is being done. Actually a lot is being done, and a certain amount of progress can be noted. But attention must be given to the statement that this is only starting from a low level, from the 11 percent share of specialized deliveries in all of the reduced trade turnovers between Poland and the GDR in 1982. This is still far from reaching the 30 percent capability considered optimal.

The period of preparation of plans for the next 5-year period of 1986-1990 is beginning now. One of the elements in the Polish and GDR plans will be reciprocal goods exchange, including exchange embracing specialization and cooperation. Therefore it is necessary to do our best, to outline clear prospects, and to conclude appropriate agreements this very year, so that the next 5 years can bring definite improvement in the development of economic cooperation between Poland and the GDR. This should particularly include the development of specialization and cooperation in the industrial production of both countries.

Cooperation in Agriculture

Warsaw ZYCIE WARSZAWY in Polish 28 Feb 85 p 5

[Article by permanent correspondent Eugeniusz Waszczuk: "Program of Cooperation in Agriculture"]

[Text] Berlin, February. A constantly greater role is being played by cooperation in the agriculture of Polish and the GDR, alongside the cooperation in the industries of both countries. Despite the fact that GDR agriculture is socialized, while in Poland it is still largely dominated by individual peasant farms, there are many common problems which joint cooperation can help solve to a considerable degree. One such common problem is the need to achieve self-reliance in the production of fodder by increasing grain harvests. The GDR is closer to this goal with its harvest last year of 45 quintals per hectare (compared to 30 quintals in Poland), but it is still interested, for example, in

Polish high-yield wheat-rye, while Poland is interested in the productive varieties of grain cultivated in the GDR. There are many such examples. The agricultural economies of both countries, operating under similar soil and weather conditions, have a great deal in common.

The problems of agricultural cooperation between Poland and the GDR were also brought up and coordinated during meetings between Wojciech Jaruzelski and Erich Honecker. Agreements concluded at lower levels followed in the wake of these general understandings.

One of the newest is the agreement signed in February of this year by the ministers of agriculture and food economy of Poland and the GDR. It contains a wide program of activity in 1985 and in 1986-1990. This is a very detailed and very concrete program, and its realization could bring significant benefits to both partners. It includes scientific and technical cooperation in the field of agriculture and food economy, the training of Polish experts, practice for Polish students and scholars in GDR agriculture, an exchange of experience between scientific and technological centers in both countries and so on.

As an example, here are just a few of the topics in the scientific and technical program of cooperation for 1986-1990.

One is the production of common varieties of high-starch and fodder potatoes in Poland, and of early eating varieties in the GDR. These are to be new varieties resistant to viruses, very fertile and of good quality. This will be a subject developed through two potato institutes, in Gross Luesewitz and in Bonina. They will form a joint culture council and will exchange research material.

Another is the development of very productive varieties of winter wheat, resistant to weather, freezing, sprouting and disease. Another common goal will be the cultivation of high-yield varieties of rye, particularly on light soil.

Still another is the cultivation of suitable varieties of wheat-rye for the purpose of increasing the per hectare yield by at least 3 quintals.

The joint cultivation of new varieties of tomatoes, beans and peas of high quality and resistant to viruses is another subject.

Cooperation in the area of vegetation includes all kinds of cultivation: corn, strawberries, decorative plants, and therefore flowers, and so forth.

There are many other topics included in the program, for example, mechanization of work in agriculture and the preparation of machinery for field work, increasing soil fertility and so on.

One large area is the development of animal husbandry, an increase in the production of meat and milk. As in the case of all topics, here again the program carefully establishes which units of both partners will undertake concrete problems, such as improvement in the quality of existing varieties of cattle, pigs and sheep, and the cultivation of new productive strains. In this field the Institute of Zootechnology in Krakow will cooperate most

broadly with GDR centers. Joint work in the development of the production of poultry and fresh-water fish is also anticipated in this same area.

Currently compulsory tendencies in the economy will be considered in this program. For example, work in the area of agricultural production mechanization is to lead to a reduction in fuel consumption, and work in stable and warehousing construction will contribute to reducing material and power outlays.

A number of topics refer to the food economy, for example, improving sugar production, greater purification of sewage from sugar plants for the purpose of reducing the burden on the natural environment, etc.

Many of these problems, considered in the 1986-1990 program, will be worked on by both sides during this very year. The list of topics in scientific cooperation and in scientific-technical cooperation for 1985 includes 32 items. They include the cultivation of new varieties of potatoes, cooperation in the area of cultivating winter rye and wheat-rye, new varieties of sugar beets and fodder beets, animal husbandry, and so on.

A particularly important matter is cooperation in the formation of agricultural cadres. It was determined that this year 640 Polish students from agricultural institutes would get practice in production cooperatives, state farms and state gardening centers, and agricultural mechanization enterprises in the GDR. The GDR party has expressed a readiness this year to provide experience for 170 Polish students from advanced agricultural schools. It also proposed the training of ten experienced Polish practitioners for 2.5 years in the area of agriculture and food economy. Lecturers from the GDR will deliver a number of papers in courses in professional agricultural improvement organized in Poland.

Cooperation between Poland and the GDR in agriculture is nothing new. It has existed for a long time. The current problem is raising it to a higher level. For example, it has developed within the framework of partnership cooperation between Polish counties and GDR states, and has not been limited to the border areas. By the end of May this year scientific and technical centers in GDR states and County Agricultural Training Cadres in Poland will sign agreements on cooperation, if there is not already such agreement.

Thus the agreement on scientific-technical and economic cooperation, signed by the ministers, contains a great deal of precise decisions and data. Among other things, it particularly defines cooperation between specific gardening centers, such as the Owinsk Combine with the VEB Gartenbau in Berlin, or the Naramowice Combine with the WEG Gewaechshausanlagen Nord and the LPG Gartenbau in Felgentreu.

Experience already gained in reciprocal cooperation will help in realizing this program. For example, last year a number of delegations of Polish farmers, as well as individuals, were received in the GDR. They placed a high value on the benefits accruing from familiarization with the achievements of the agricultural economy there.

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CZECHOSLOVAKIA

PLANNED ECONOMIC TASKS FOR 1985 DISCUSSED

Prague PLANOVANE HOSPODARSTVI in Czech No 1, 1985 pp 1-7

[Article by Eng Vladimir Janza, minister and deputy chairman of the State Planning Commission: "Efficiency in the Plan for 1985--The Decisive Source of Growth in the Standard of Living"]

[Text] Substantial changes in the conditions of the world economy and their effects on the development of the Czechoslovak economy have emphasized the necessity of implementing intensification actions as the basic requirement for maintaining the high standard of living achieved by our population and a further growth in this level. In relationship to this, the implementation of economic intensification and achieving higher efficiency in the economy is thus not just a professional economic task, but rather a highly political plan for the current times. Actually mastering it demands a high level of economic skill which the current level of the world and the Czechoslovak economies are capable of providing, a systematic approach to the solution of demanding problems, and an emphasis on the responsibility of central agencies and economic organizations in managing economic development.

The basic and decisive prerequisite for mastering these tasks and fully implementing them in economic life is the unity of the conception of all economic workers of the necessity of the directions laid out for economic development and in our opportunities and capabilities for more rapidly putting into motion those forces which will carry out the goals of the economic policy.

To create unity of the concept of the necessity of intensive directions of development in the thought and behavior of economic activists, but especially in application of the specific paths to implement it in the everyday practice of economic management, political work in the broad sense of the word, including the fields of ideological, personnel, and propaganda activities, has a very important role.

The effectiveness of the political action is indisputably greater when people in their everyday activities become convinced that the implementation of the intensive directions and the achievement of positive results is valued by society, but at the same time there is also appropriate compensation both for the individual and for the collective. This is possible only under the condition that, along with the political efforts, we proceed in this direction with

full emphasis on fully implementing systemic actions of planned management or further improve it so that the political line is graphically demonstrated by the facts of our economic practice.

The basis of these systemic actions and their improvement is the application of national economic considerations in every economic decision and priority designation of those lines of development in the national economic plan which would be in keeping with those considerations and would lead to achieving higher efficiency in concurrent working together of all forms of compensation and financial, currency, and credit tools which taken together would express a unified and purposeful effect of the system of planned management in the creation of optimum proportions in the national economy.

The demanding nature of the goals of the 1985 plan require the creation of an appropriate political and economic climate. It is important because, on the one hand, we are dealing with fulfilling the strategic intentions of the Seventh 5-Year Plan, while at the same time the 1985 plan establishes the basic trends in economic development for later 5-year plans. Of course, the basic fact is that we must in this difficult environment create the necessary resources for the future development of the standard of living, including not only the materialistic personal and social consumptions, but also housing and improvements in the work and living environments. This is the idea behind all of our efforts and is the goal which makes it worth while for us to devote all our energy to it.

Results Achieved

Through the annual plans we implement the strategy of the long-range intentions for the development of the economy. In evaluating the results of carrying them out, we have to use criteria which express these strategic intentions.

For these reasons, it is useful to recall briefly the strategic goals of the Seventh 5-Year Plan, which required:

- increasing the efficiency of economic development and optimizing the dynamics of development in relationship to the resources for economic development of the national economy;
- giving priority to implementation of a balanced proportion within the economy, but especially in external relations;
- maintaining the workers' standard of living and improving it within the degree to which resources are created.

I consider it important to emphasize that, under the conditions of applying the intensive directions of development, one must understand the "dynamics of economic development" as development characterized by the indicator of development creating national income and not, as is often thought, the indicator of production or the collective product. The characteristic feature for the intensive directions of economic development must be an approximation or a lead in the dynamics of growth in national income over the collective product and a

resultant freeze in, or reduction of, the levels of production consumption. This is the decisive trend characterizing the development of efficiency in the national economy. The dynamism of the collective product or production is an important prerequisite for growth in the efficiency of the national economy, but of course only if it is in accordance with the planned usage of production to bring higher economic efficiency. On the other hand, a high production growth rate (and this is similarly true for exceeding the planned growth in production) whose utilization, in conflict with the intentions of the plan, only appears as a growth in supplies, a chronic, long-term unusable asset resulting in exports and insufficient imports, as well as increased deliveries for investments which mean lower efficiency in the fixed assets and basically leads to a worsening in the development of efficiency in the national economy.

It is understandable that the above national economic tendency, which is characteristic for the intensive directions of economic development, is expressed by national economic indicators. At the level of the economic plans, this is expressed by a reduction of material expenses and a growth in profit and individual output with a reduction in the proportion of capital depreciation for output and in the indicators for deliveries for the domestic market in wholesale and retail prices (that is, the development of the sales tax) and for the market abroad in wholesale and fco prices, as well as in a reduction of the proportion of wages to individual output, etc. Only the aggregate of all these indicators of the economic plans can express the overall development of efficiency in the plans of economic organizations, which only then have a relationship to the development of national income.

We are succeeding in carrying out the basic strategic intentions of the economic policies for this 5-year plan. At the same time, however, we are well aware that the positive results achieved

- have not always been achieved directly and have required considerable organizational efforts,

- were not always achieved by the ways designated by the plan, and

- did not always use the methods of planned management which meet the optimum capabilities of the socialist economy.

One also cannot dispute the fact that even the strictest, but impartial and objective, evaluation of the development of the Czechoslovak economy shows the following:

- after a preliminary period of stagnation, in recent years there has been achieved about a 3 percent growth rate in national income in keeping with the plan,

- in keeping with the requirements of the plan, we fulfilled our obligations in external relations, and

- not only have we maintained the standard of living under these difficult conditions for developing the economy, but we have even increased it in accordance with the resources created.

Despite the positive results achieved, we evaluate economic development in a critically demanding way and we are well aware that we have not exhausted all possibilities. The road to even higher efficiency in the national economy includes:

- more thorough mastering of the structural changes in economics required by the plan and implementing the tasks of the executive industry and its efficiency;
- implementing the planned proportions in the use of production in accordance with the predicted efficiency;
- further increasing the demands on economizing in the production process and increasing the efficiency of national labor in its final utilization; and
- a more thorough exploitation of the possibilities given by today's system of planned management and in further phases of its improvement.

The obstacle to achieving better results in these directions of economic development are predominately subjective factors, mostly in our thinking, and in the approaches to resolving economic questions to which we have become accustomed in the past. To push for the intensive directions of economic development under current conditions requires that we overcome the traditional views on economic development and the routine approaches and methods of work, that is, to begin to think and act based on economics.

Goals for the 1985 Plan

The results achieved in economic development and the conclusions reached in evaluating them, the experience gained in implementing measures to improve the system of planned management, and knowledge of the conditions for future economic development as well were all the starting point for the conception of the 1985 plan. Its basis, arising from these complex relationships, consists of efforts to maintain the current positive trends and to replicate them in 1985 at a higher level and at the same time to strive for solutions to the weak points in our current economic development. As a consequence of this, more demanding goals, especially from the qualitative aspects, are being set for the development of our economy. But at the same time, this means preparation for, and a gradual transition to, the more demanding parameters for economic development in the Eighth 5-Year Plan.

The basic, conceptual intentions of the 1985 plan are summed up by these data on the national economy:

| | |
|------------------------------|-------------|
| growth in national income | 3.2 percent |
| growth in collective product | 1.9 percent |
| usable national income | 2.3 percent |
| --nonproduction consumption | 2.9 percent |
| --accumulation | 1.0 percent |
| industrial production | 3.0 percent |
| --of which, engineering | 6.0 percent |
| construction production | 1.2 percent |

| | |
|---|---------------|
| agricultural production | -1.1 percent* |
| reduction of material expenses in economic organizations | -1.22 percent |
| reduction of energy demands in creating national income | -3.0 percent |
| reduction in average consumption of rolled metal materials in engineering | -5.4 percent |
| growth in productivity of labor (national income) per worker in the production sphere | 2.8 percent |

*as a result of above average agricultural production in 1984

The most important national economic data of the 1985 plan testify primarily to the emphasis on improving the quality of the processes of economic development. From this standpoint, there is a highly demanding goal of achieving a lead in the growth of national income over collective product and industrial production. This means that the share of production consumption in the collective product is supposed to be reduced by 0.5 points (in comparable prices).

In order to reach this demanding goal of efficiency in national economic development which is contained in the state plan, it requires that in the economic plans of the economic production units and enterprises:

--they ensure planned economizing in the production process, expressed by a reduction in material expenses and a justified reduction in the average consumption of energy resources, ferrous and nonferrous metals, other raw materials, materiel, etc. down to the minimum; and

--the economic plans at the same time ensure as a minimum the planned efficiency of the final use of production (expressed as a ratio of wholesale to retail prices for deliveries to the domestic market and as a ratio of wholesale to fco prices for deliveries for export, but in the reverse ratio for imports).

Greater economizing in the production process and a higher evaluation in the final output of production expressed in the economic plans of the economic production units and enterprises by the above indicators are the basic factors for growth in the national income and thus also for the development of efficiency in the national economy.

To achieve these intentions of the plan in efficiency requires more rapid exploitation of the results of scientific development. The plan projects an increased volume of production of products at a high technical and economic level by about 9 percent and also an increased production on the basis of applications of outputs of the state plan for technical development. It is, of course, necessary for production or products made as applications of outputs of the technical development plan to be the bearers of increased efficiency (measured by, among other things, the efficiency parameters given above for the final use of production). Experience shows, however, that it never works out this way in practice; that is, that the new products made as applications of outputs of the research and development plans have lower economic efficiency parameters, which is wrong. In this case, the plan indicator of "proportion

of products of high technical parameters and quality" is changed into a simple indicator of volume, making no contribution to efficiency or the growth in national income. From the standpoint of adjustments, a system of price creation must also play an active role.

In working up economic plans in the economic production units and enterprises, it is necessary to include in them the results of planned research and development to ensure meeting its economic goals and utilizing all the possibilities of the compensation system, especially pushing the merit principle.

Utilizing the results of research and development for carrying out production tasks is an important condition for a nontraditional approach to meeting the goals of the state plan in the economic plans. At the same time, this important method of working out economic plans is not always fully understood, especially by technical supervisors, but also by economic employees. This makes it all the more necessary for the superior organizations, and the party and trade union agencies as well, to devote attention to this question. One cannot evaluate the quality of the economic plans on the basis of fulfilling one indicator of the plan (for example, individual productivity), as often happens. Only the aggregate of economic plan indicators which characterize the efficiency and economic obligations of the suppliers in relationship to the customers expresses the actual quality of the economic plan. The demanding goals of efficiency in the 1985 plan unconditionally require the above approach, since the so-called rapidly mobilizable reserves are being used up and it is economically and socially unacceptable to utilize the various speculative paths (prices, unplanned changes in inventory which disrupt the customer-supply relations, reducing the extent of repairs, etc.).

As experience from previous development shows, we must give serious attention to the structure of production usage and shape the structure of production to it.

In the past, we were used to a certain priority in the structure of the market (either deliveries for export, or investment or market funds). Currently there is a substantially more complex task consisting of a task laid out to ensure fulfillment of the plan by a predicted overall market structure and not just in one of its directions. This is the newly formulated demand of the plan for 1985 resulting from the fact that to give a long-range priority to one direction of usage means necessarily creating disproportions in the other directions. In this phase, moreover, it is just a matter of distribution of what has been produced and it is therefore decisive to work out a production structure in the economic plans which is in keeping with the needs of the foreign market, the domestic market, and investment construction.

The prerequisites for carrying out the foreign trade tasks are mainly created in production. The technical level of our products, their quality, and the essential services after sale are the basic requirement for implementing them. Of course, one cannot forget that foreign trade as a result of the international division of labor is, after technical development, the other decisive factor in the growth of efficiency of economic development and that therefore the goal of fulfilling the tasks of the plan in this area as well is to achieve

a higher contribution of the international division of labor for the growth of national income. In external relations, we check out the results of our work within the economy by comparison with the international scale. It is the task of every economic production unit, and of every foreign trade organization as well, to derive from this measuring their own conclusions for their work, but especially to include in the plan those comprehensive actions necessary for keeping pace with the competition which we run into in the foreign markets.

An important role in meeting the goals of the plan and achieving the planned efficiency must be played by foreign trade policy, as represented by the foreign trade organizations. Substantial changes in the conditions of the foreign market require that changes also be made in that area in terms of the existing routine, habits, and stereotype methods and accommodation be reached with the methods used by our partners. In each case, it is necessary for our foreign trade organizations to create through imports an area for our exports and its efficiency must be structured in keeping with the intentions of the plan. This is one of the basic tasks of the foreign trade organizations, that is, to exploit the advantages of the international division of labor. The predicted planned dynamics of exports and imports in 1985 does not, however, make full use of the effect of international division of labor in either the socialist or nonsocialist countries. We predict substantially more demanding parameters for this area in the upcoming 5-year plans. We need to make timely adjustments in our operations and create the essential prerequisites.

Concurrent with the 1984 plan, a number of systemic measures were approved to tighten up conditions, especially for exports, in order to create the more demanding requirements for the increased efficiency tasks and to stress the responsibility of the economic organizations for the results achieved.

The basic intention of the plan in the field of capital construction is to continue to implement the long-range strategy of completing the construction projects started and putting them into operation on a timely basis; to take further steps toward modernization and reconstruction, especially in the processing industry; to begin new construction to supply energy in the future; to carry out the planned structural changes in our production technical base; to improve the ecology; and to ensure the planned housing construction.

Even though the annual plan is understandably not a perfected instrument for planning the investment process (the 5-year plan and the long-range outlook for economic development are more authoritative), we nonetheless predetermine much of the further development of this process by working out the investment goals in the annual economic plans. The basic viewpoints of the approach toward working out these goals for the investment plans in the economic organizations are the concentration of investment resources to achieve the optimum effect, actions taken to utilize the existing fixed assets, design and supply preparations for construction, and the process of adjusting the structure of the construction capacity to the long-term needs of the investment structure.

Setting demanding goals in the creation of material resources and efficiency gives us the opportunity for further improvements in the peoples' standard of living. The plan creates the prerequisites for growth in personal consumption

of 2.2 percent, nominal wages are to grow by 3.8 percent with an actual value of 2 percent, and retail turnover will increase by 4.1 percent. It also provides a basis for the requirements for improving the structure of deliveries to the consumer goods inventory of both foodstuffs and industrial goods as well. In the field of housing construction, the plan calls for completing about 107,000 apartments. The goals in growth of social consumption are fully supported. The goals laid out in the increase in the people's standard of living for 1985 are altogether higher than the figures considered for 1985 in the 5-Year Plan.

Presently work is being completed on the specific working up of economic plans in economic organizations. In this work, it is very important that everyone have a detailed program and methods worked out for resolving problems, that specific responsibilities are established for the collectives and the individuals as well, and that all those implementing the plan be made aware on a timely basis of their goals and the consequences of meeting or not meeting them.

That is the basic prerequisite for good work organization and an essential condition for organized initiative by the workers in fulfilling the demanding tasks of the 1985 plan.

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CZECHOSLOVAKIA

ROLE OF CONSUMER INDUSTRY IN CSSR ECONOMY VIEWED

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[Article by Engr Milan Drazdil, State Planning Commission: "The Role of Light Industry in the Czechoslovak Economy"]

[Text] Light industry encompasses the area of the glass industry, the ceramics industry, the textile and clothing industries, the leatherworking industry and the printing industry and fulfills an irreplaceable role in our national economy. This is given by its close relationship with the needs of our domestic market (it assures a wide scope of deliveries for the personal consumption of the populace with respect to clothing, footwear and dwelling and with respect to the utilization of free time in sports, recreation and culture) and its relationship with regard to social consumption (be it in the form of semi-finished products or finished products for other branches of our national economy, such as the construction industry, the engineering industry, the electrotechnical industry, agriculture, etc., or in the form of objects to satisfy social consumption in the areas of education, health, the hotel industry, the economy of dwelling and social security), as well as its relationship to our foreign trade (light industry products are the object of all long-term trade agreements and annual agreements with CEMA countries and also represent important components in commercial relationships with nonsocialist countries). The depth of assortments produced within the framework of light industry is practically inexhaustible; it is estimated that it annually amounts to 600,000 to 800,000 items which exert a high demand upon the variety of production operations, their quality, etc.

Taken historically, the majority of the areas of light industry belongs among the oldest in our country and some of them, for example, the glass industry, ceramics industry, textile and footwear industry, have attained international reputations. Prior to World War II the light industry accounted for virtually one-third of all Czechoslovak industrial production and, in view of the limited possibilities of placing these products on the domestic market, the predominant portion (an estimated 30 to 90 percent) were exported). In addition to having its positive sides, this did have its negative aspects, which were particularly palpable during the period of economic stagnation and crises when poor sales of merchandise, high unemployment and other negative phenomena came fully to the fore.

A qualitative turnaround in the production base of our light industry, which had been significantly weakened by the world economic crisis of the 1930's and World War II, was not accomplished until victory over fascism and the soon to follow nationalization of key branches of industry, banks and the monetary system. Following the victory of the working class over reactionary forces in 1948 and the proclamation of the general line of the 9th Congress of the CPCZ, light industry production began to be gradually concentrated into larger economic units and a portion of the installations with factories in the border areas were relocated to Slovakia. This marked the beginning of the basic prerequisites for the effective mechanization and rationalization of production processes, higher specialization and cooperation and the overall structural rebuilding of this branch of industry. In conjunction with the general line stated by the CPCZ--to assure the gradual economic balancing of Slovakia to the level of the Czech lands--light industry was developed substantially more rapidly in this territory (assuming a basis of 100 in 1948, light industrial production in the CSR grew to about 5.5-fold by 1982, whereas in Slovakia the figure was more than 13-fold).

Even if the average annual tempo of growth of light industry production over the past 35 years was lower than the key branches of our national economy (metallurgy, engineering, energy and chemistry), growing annually by not quite 6 percent whereas industrial production rose almost 8 percent, this was an indisputably decisive trend, so much so that today we stand among the developed nations with respect to the level of this branch of industry. This status is not changed by a certain slowdown in the production tempo in recent years, influenced by a sharpened international political and economic situation and the concomitant lowered demand for light industry products on the capitalist markets, particularly textiles, footwear and glass.

The proceedings of the 16th Congress of the CPCZ emphasized as key goals for the next planning period a thorough application of further intensification in the economy, the making of effective structural changes while making maximum use of the results of scientific and technical development, the deepening participation of the CSSR in the international division of labor involving socialist countries, the perfection of planned management and other aspects. The demanding nature of these goals is higher by the fact that we are assuring their realization accompanied by a constantly more complicated international political situation, and thus, even in a far more complicated domestic and external economic claim than was the case in previous years. This is given by a number of factors, primarily by the constantly shrinking possibility of satisfying the demand for raw materials, materials and energy, by the strictly limited quota of hard currency made available for imports from nonsocialist countries, by the very rapidly changing demand for consumer goods on the domestic and foreign market (the influx of cheap goods from Third World countries, the declining interest of the population in the West in consumer goods), by price and customs barriers, etc.

In the mirror of these changed conditions, the tasks of light industry are seen in a somewhat different position than was the case in previous 5-year plans. The emphasis is now no longer concentrated on the dynamic growth of production (the annual increment during the 7th Five-Year Plan in this area is

approximately 2-3 percent), but on in the increase in quality and the technical level of products, a more intensive and brighter innovation of the assortment for the domestic market and the growth of exports of such commodities in which we are able to make the best use of national work and domestic raw materials.

In harmony with these tendencies, the congressional directives stipulated the following decisive tasks:

i. in the textile and clothing industry: concentrate the principal effort on increasing the share of finer cotton yarns, a fast growth in the production of furniture fabrics and floor coverings for domestic market and for export, the modernization of spinning mills, weaving mills, beneficiation plants, etc., a more effective evaluation of secondary raw materials, particularly scraps which are considered unprocessable for the time being and the systematic increasing of luxury and high-quality products;

ii. in the glass and ceramics industry: concentrate primarily on the development of fiberglass and fiberglass fabrics and other products for technical purposes, reduce the energy requirements in these industries, make more effective use of domestic raw materials and continue with the modernization of production bases;

iii. in the leatherworking industry: place primary emphasis on the constant modification of the product assortment and on increasing the share of luxury footwear while reducing the raw material requirements, particularly with respect to production based on imported materials;

iv. in the polygraphic industry: adapt production to technical progress in mass communication media.

Results obtained during the first 3 years of the 7th Five-Year Plan indicate how the individual areas of light industry are dealing with the tasks set by the 16th Congress of the CPCZ. It is necessary to keep in mind that, after the approval of the congressional directives, it became essential to significantly correct the initial intentions expressed in the annual operating plans, since decisive changes had taken place on the world markets (the limitation of some products as a result of unfavorable sales in capitalist markets, adjustments of imports of some basic raw materials, etc.), which, understandably, were reflected in the fulfillment of the basic goals in this area. Development thus far is documented in Table 1.

It is clear that the tempo of growth in production of goods in the individual planning aggregations of light industry is relatively uniform and somewhat lower than was anticipated by the congressional directives. An exception is the leatherworking industry where, particularly in the years 1982-1983, a crisis developed on the world market (problems involving export to nonsocialist nations) and it was not possible to observe a certain revival until last year.

Of the individual balance components, it was possible to observe the largest material increase in production in the following commodities during the period being followed (comparison of 1984 plan with 1980 actual data):

i. glass industry: glass fibers for the electrotechnical industry (+40 percent), nonalkaline glass beads (+22 percent), glass jars (+13 percent);

ii. textile industry: upholstery fabrics (+14 percent), fabrics combined with jute and olefin fabrics (+19 percent);

iii. leatherworking industry: shoes (+15 percent), leather fancy goods (+13 percent), textile and other shoes (+7.5 percent), plastic shoes (+4 percent).

Table 1. Development of Goods Production in the Light Industry of Czechoslovakia in Comparable Prices During the Years 1980-1984 (1980 = 100)

| Item | Actual | | | Plan 1984 | Anticipated Actual 1984 |
|-------------------------|--------|------|------|-----------|-------------------------|
| | 1981 | 1982 | 1983 | | |
| Light industry, total | 103 | 105 | 106 | 108 | 108 |
| Including: | | | | | |
| Glass | 102 | 106 | 107 | 111 | 108 |
| Textile industry | 103 | 105 | 107 | 109 | 109 |
| Clothing industry | 103 | 106 | 108 | 111 | 110 |
| Leatherworking industry | 103 | 103 | 103 | 104 | 104 |
| Polygraphic industry | 102 | 104 | 107 | 108 | 109 |

On the other hand as a result of serious sales problems and the restructuring of the assortment the production of some commodities, expressed in quantities and compared to 1980, declined. This is true, for example, of knit clothing (-9 percent), knit underwear (-6 percent), leather shoes (-4 percent) and fabric shoes (-11 percent). The development of deliveries to market inventories is characterized in Table 2.

Table 2. Development of Deliveries to Market Inventories From Czechoslovak Light Industry in Comparable Prices (1980 = 100) for the Years 1980-1984

| Item | | Actual | | | Plan 1984 | Anticipated Actual 1984 |
|-------------------------|----|--------|------|------|-----------|-------------------------|
| | | 1981 | 1982 | 1983 | | |
| Light industry, total | VC | 101 | 104 | 108 | 107 | 109 |
| | MC | 100 | 101 | 105 | 107 | 108 |
| Including: | | | | | | |
| Glass and ceramics | VC | 104 | 116 | 131 | 120 | 127 |
| | MC | 103 | 114 | 135 | 129 | 137 |
| Textile industry | VC | 100 | 103 | 107 | 108 | 110 |
| | MC | 99 | 102 | 105 | 108 | 108 |
| Clothing industry | VC | 95 | 96 | 99 | 97 | 100 |
| | MC | 92 | 94 | 95 | 96 | 98 |
| Leatherworking industry | VC | 109 | 111 | 110 | 111 | 112 |
| | MC | 108 | 106 | 106 | 108 | 109 |
| Polygraphic industry | VC | 92 | 100 | 107 | 103 | 109 |
| | MC | 92 | 102 | 112 | 112 | 120 |
| Rempo + Rempo | VC | 96 | 102 | 103 | 110 | 106 |
| | MC | 99 | 104 | 104 | 113 | 107 |

Note to Table 2: VC = wholesale prices; MC = retail prices.

Thus, the development of deliveries to market inventories from the individual areas of the industry is rising even though at varying speeds. The clothing industry is an exception, where the plan did not expect to achieve the 1980 level until 1984.

A high degree of dynamics is shown particularly in the glass and ceramics industry which can be explained through the utilization of unrealized export inventories at home, the extraordinary volume of imports of household porcelain from Asia and for other reasons. To complete the picture, it is possible to say that the decisive volume of light industry products is assured for us by the domestic market of the textile industry (47 percent in 1984), the leatherworking industry (22 percent), the clothing industry (19 percent), the glass and ceramics industry (9 percent) and the remaining 2 percent being accounted for by the Rempo enterprises and the polygraphic industry.

It is necessary to see that deliveries from light industry to domestic trade were for the most part realized during recent years under conditions of the worst relationship between retail and wholesale prices, so that, in order to fulfill the retail turnover plan, economic production units were forced to exceed deliveries in wholesale prices and, thus, also in quantitative units. This is documented in Table 3.

Table 3. Development of the Relationship Between Retail and Wholesale Prices in Individual Segments of the Light Industry (in comparable prices)

| Item | Actual | | | | Plan 1984 | Anticipated Actual 1984 |
|-------------------------|--------|-------|-------|-------|-----------|-------------------------|
| | 1980 | 1981 | 1982 | 1983 | | |
| Light industry, total | 188.0 | 185.0 | 182.9 | 183.7 | 187.0 | 185.4 |
| Including: | | | | | | |
| Glass and ceramics | 158.1 | 156.4 | 154.6 | 162.4 | 170.3 | 171.1 |
| Textile industry | 195.8 | 193.8 | 192.7 | 193.4 | 195.6 | 193.5 |
| Clothing industry | 200.0 | 194.2 | 195.7 | 193.1 | 198.0 | 194.8 |
| Leatherworking industry | 171.1 | 169.5 | 163.1 | 164.5 | 166.3 | 166.1 |
| Polygraphic industry | 181.1 | 182.8 | 184.2 | 189.2 | 195.9 | 199.0 |

It can be seen that the relationship between retail and wholesale prices in 1980, with some minor exceptions, declined in the individual sectors of light industry and did not begin to register a certain improvement until last year even though it most likely will not attain the levels set forth in the state plan. This unfavorable tendency signals that the demand of the population which is able to make purchases is aimed more toward merchandise at medium and lower price levels. This status naturally changes the structure of the demand in an undesirable direction and does not go along with the intentions of the plan, which support a more dynamic development of high-quality goods, incorporating higher retail prices. In this connection it will be necessary to make a more detailed evaluation of the price question, particularly with respect to products showing a very low or even a negative turnover tax (or, on the other hand, an extremely high retail-to-wholesale price relationship). We could experience unpleasant deformations in the consumer goods

market, an undesirable shift in the demand of the population and a resulting development of new "shortage" types of merchandise including the occurrence of undesirable antisocial manifestations such as "sales under the counter," etc.

In sum it can be stated that planned deliveries from light industry enterprises to market inventories were, by and large, exceeded but that it continues to be impossible to assure the required structural changes, for example, the strengthening of the availability of high-quality merchandise having a better utilization of the retail-to-wholesale price ratio.

One of the problems of the light industry which regularly occupies the attention of the central economic organs, particularly the Government Commission for Ensuring the Internal Market of Adequate Supplies of the Most Important Types of Merchandise, is the occurrence of some shortage products.

i. In the area of the textile and clothing industry, the situation is gradually improving with respect to hosiery products, flannel shirts, linen towels and kitchen towels, cotton "loop" goods, classic carpets containing natural and synthetic fibers, etc. Similarly, we can also say that the interest in bedding (fabrics as well as completed items), which was once in short supply, is being fully met. The improvement in market supplies is also aided by extraordinary imports from socialist and nonsocialist countries, which were realized toward the end of the calendar year (this is particularly true of assortments of outer garments and personal linens) and by the release of some unrealized export inventories to the domestic market (carpets, glass, etc.). However, problems persist with deliveries of certain types of work garments (slippages in fulfilling cooperative deliveries from the Vietnamese Socialist Republic), in the supply of cotton underwear and sanitary pads.

ii. In the shoe assortment, the interest in textile and mesh shoes is growing and it cannot be explained merely by favorable summer climatic conditions in previous years. On the other hand, the demand for leather footwear, particularly luxury-type footwear, and for rubber footwear has declined somewhat. Because of raw material shortages and capacity shortages, it is not possible to fully satisfy the demand of the population for some types of winter footwear used in free time situations and women's and girls' summer footwear, as well as sports, dress and textile shoes for children and adults.

iii. In the leather fancy goods area, a shortage of dress and sports gloves, which are very demanding with respect to raw materials, persists; the situation is more or less satisfactory with respect to other products.

iv. For years the problem of not being able to satisfy the demand of the population with respect to some types of utilitarian porcelain (cups and plates) has plagued the glass and porcelain industry. However, even here the situation has improved to such an extent that, following the startup of new capacities, this problem has now been solved. A welcome brightening of the market was certainly represented by the expansion of the network of sales outlets which offer merchandise which, previously, only appeared sporadically in our stores (onion and pink porcelain, lead crystal, etc.); it will be necessary to devote constant attention to satisfy the demand for preserving jars so that we

would not once more be surprised by an enormous fruit harvest, as occurred in 1982 (this problem is connected with solving the recycling or return of canning jars to a greater extent).

The quality of consumer goods, their finish and their inadequate technological level is often the subject of criticism by consumers. Whereas some production enterprises show only minimal instances of inadequate quality--approximately 1 percent or less, extremely high percentages of defective products were determined on the basis of deliveries checked in other enterprises (for example, in 1982, the Pragodev, national enterprise, had virtually 9 percent of defective products and more than 11 percent were recorded at the Clothing Enterprise at Trencin. There are still considerable reserves available in this area, just as they are in the utilization of science and technology. The tempo of innovation also frequently lags behind world standards; we are unable to offer customers the kind of products which would adequately capture their interest and attention, which would brighten the assortment of offerings on the market and would effectively utilize the inventiveness of the innovators. Then, in stores, we find the most varied "leftovers" and inventories are far in excess of norms. This kind of merchandise then most frequently ends up in the most varied clearance sales at substantially lower retail prices than were originally set, so that the raw materials, often imported from nonsocialist countries, and the energy used in their production, are utilized in an extremely uneconomical way.

In conjunction with one of the basic conclusions of the 16th Congress of the CPCZ--namely to increase the level of deliveries of consumer goods to the domestic market--increasing attention has been devoted in recent years to assuring the availability of products of extraordinary quality for the domestic market. The sale of selected products with higher utilitarian and esthetic characteristics was, until recently, assured primarily by only the sales outlets of the Luxus Sales Enterprise, which were established in Czechoslovakia gradually since 1979. Their retail turnover with respect to products of the light industry amounted to 850 million korunas in 1982 (in retail prices) with the predominant portion of this turnover (about 60 percent) formed by the category of so-called other stimulated products (fashionable novelties, luxury goods, etc.), which were also sold outside the network of these sales outlets so that the initially conceived differentiation from the remaining sales network was actually not achieved. For these reasons the federal government passed Resolution No 151/82 which called for the agreement and compilation, on the part of delivering sectors and trade sectors, of a specific assortment of luxury and innovative goods of extraordinary quality and called for a program for their production and delivery, to be specified in such a manner that in 1985, light industry business in these products would amount to about 1.1 billion korunas in wholesale prices. In 1983 the ministries of industry of the CSR and SSR supplied the domestic market with merchandise of extraordinary quality valued at about 600 million korunas in wholesale prices with the retail-to-wholesale ratio being about 2.25:1. This volume was shared by the textile and clothing industry to approximately 70 percent, the glass and ceramics industry to approximately 20 percent and the leatherworking industry and other sectors, 10 percent. Last year these deliveries were scheduled to be increased to 750 to 800 million in wholesale prices and this year they are supposed to achieve a level of 1.2 to 1.5 billion korunas in wholesale prices.

The basic steps toward realization of this task was made at the beginning of 1983 when the first three specialized "Bohemia" sales outlets were opened in Prague, Ostrava and Bratislava and offered luxury glass, porcelain and light fixtures, and when the sale of classic woolen rugs was initiated in independent sales outlets in Prague, in provincial cities and in selected industrial conglomerates. Since that time the number of specialized outlets has been expanded in other regional and some okres towns. In the beginning the above campaign enjoyed a great amount of interest among customers and the sales outlets attained roughly three times the volume of sales than they had recorded selling the initial assortment of goods. Gradually, sales stabilized, with the exception of classic woolen carpets, where the consumer interest was soon saturated and their prices had to be lowered to revive trade. Existing experience indicates that the introduction of the sales of extraordinary quality products is not a simple task and requires deliberate central management, from production in the individual sectors through the bulk purchase and subsequent sale within the network of specialized sales outlets, including the setting of suitable economic levers such as the stimulation of sales, price policy, etc. Currently, therefore, the principles of planned management of deliveries and sales of these products are being discussed in greater detail at the ministerial level and in planning organizations and it is anticipated that the state and economic plan will establish the delivery task of these products only in wholesale prices with a special entry and that an improvement will be achieved in the retail-to-wholesale price ratio so that it would eventually come close to a value of 3 to 1. These principles will also set forth the rules for the compulsory return of the price differences derived from retail prices to the state budget, the method of sale to be implemented in the network of special sales outlets, the possibilities of wage stimulation with respect to producers and in sales outlets, etc.

As has already been said, the light industry belongs among the important exporters to socialist and nonsocialist countries within the framework of our economy. It has this role even in the 7th Five-Year Plan, despite the fact that it is clear that, particularly with respect to nonsocialist nations, a number of serious problems have occurred which were not manifest in the past.

The existing development in the export of light industry products to socialist countries is evident from Table 4 (in comparable wholesale prices, 1980 = 100):

Table 4

| Item | Actual | | | Plan 1984 | Anticipated Actual 1984 |
|-------------------------|--------|------|------|-----------|----------------------------|
| | 1981 | 1982 | 1983 | | |
| Light industry, total | 108 | 120 | 124 | 127 | 130 |
| Including: | | | | | |
| Glass and ceramics | 100 | 109 | 112 | 113 | 114 |
| Textile industry | 118 | 137 | 149 | 155 | 160 |
| Clothing industry | 112 | 119 | 121 | 138 | 136 |
| Leatherworking industry | 101 | 112 | 111 | 106 | 109 |
| Polygraphic industry | 106 | 135 | 170 | 185 | 185 |

The data show a dynamic development of deliveries, which occurred primarily in 1982 and 1983 when socialist countries, in addition to receiving contractually specified quantities of merchandise, received additional commodities in exchange for goods which we would otherwise have had to purchase in free currency. The USSR, which accounts for about two-thirds of all goods exported from Czechoslovakia to socialist countries, remains our greatest partner; followed by the GDR, the Bulgarian People's Republic and Yugoslavia. However, in this direction it will be necessary to seek a structure of mutual exchange in this direction so that we will be able to expand and improve our assortment of merchandise on the domestic market, not only through the availability of standard goods but also goods comparable with world standards.

While we can be generally satisfied with the development of exports to socialist countries, the same can definitely not be said with respect to our relations with nonsocialist countries:

Table 5. Export of Light Industry Products of Czechoslovakia to Nonsocialist Countries in Comparable Prices (1980 = 100)

| Item | Actual | | | Plan 1984 | Anticipated Actual 1984 |
|-------------------------|--------|------|------|-----------|-------------------------|
| | 1981 | 1982 | 1983 | | |
| Light industry, total | 102 | 99 | 98 | 99 | 100 |
| Including: | | | | | |
| Glass and ceramics | 101 | 98 | 87 | 95 | 92 |
| Textile industry | 103 | 101 | 102 | 99 | 103 |
| Clothing industry | 115 | 116 | 121 | 118 | 118 |
| Leatherworking industry | 97 | 80 | 84 | 87 | 88 |
| Polygraphic industry | 105 | 130 | 144 | 147 | 149 |

The overall export of light industry products to nonsocialist countries is, in fact, stagnating; particularly with respect to commodities of the glass and leatherworking industry, unfavorable trends in international trade are occurring, for example, the growing bank and trade discrimination on the part of capitalist countries, competition from Third World countries, stagnation and lack of interest in this kind of merchandise on the world markets, etc. In other sectors these negative tendencies are smaller. Nevertheless, since 1981 considerable difficulties have occurred with respect to export of knitted goods and personal linens where, in addition to failure to fulfill export requirements as to quantity, we frequently achieve unfavorable prices. In this connection the economic production units, together with the appropriate organizations of foreign trade, must analyze the situation in detail and conceive strategies which would make possible an improvement in export capabilities of Czechoslovak consumer industry products. They should, particularly, forge closer ties between production and foreign trade spheres and should exert efforts to produce such commodities which attain world technical-economic parameters and successfully compete on the market in competition with world class standards.

A significant direction for utilizing the production of light industry is the assurance of the needs of the other sectors of the national economy. In this

case, the 7th Five-Year Plan ascribes the most important position within light industry to the glass and ceramics sector, which, for example, provides the food industry with large quantities of glass containers (drink bottles, canning jars), provides the construction industry with glass-reinforced mats and supplies large quantities of hygienic ceramic products, fiberglass fabrics, drinking bottles and laboratory glass for the Ministry of Health, etc. Deliveries for individual sectors, however, are shared insignificantly by even textile sectors (the cotton sector, for example, delivers cotton fabrics to the electrotechnical industry and to the general engineering industry, the linen sector provides the most varied sacks to agriculture and other consumers, the wool sector provides floor coverings to the general engineering industry, etc.) and the clothing and footwear industry (work and protective clothing and footwear). The following review indicates the development in the consumption of selected products of light industry in specific sectors.

Table 6

| <u>Consumption</u> | <u>Sector</u> | <u>Actual</u> | | | | <u>Plan 1984</u> |
|---|---------------|---------------|-------------|-------------|-------------|------------------|
| | | <u>1980</u> | <u>1981</u> | <u>1982</u> | <u>1983</u> | |
| Fiberglass fabrics for electrotechnical purposes (thousands of m ²) | FMEP | 5,908 | 6,600 | 6,950 | 5,883 | 7,502 |
| Beverage bottles (millions) | MZVz CSSR | 510 | 537 | 486 | 530 | 549 |
| Canning jars (millions) | MZVz CSSR | 290 | 328 | 313 | 371 | 332 |
| Cotton fabrics (thousands of meters) | FMEP | 8,651 | 8,526 | 8,375 | 8,385 | 8,430 |
| Polyolefin bags--woven and knitted (thousands) | MZVz CSSR | 22,339 | 21,934 | 24,491 | 23,318 | 23,214 |

Note: FMEP = [Federal Ministry of Energy and Fuels]; MZVz CSSR = Agriculture and Food Industry.

Even if products exist in which the balance of resources is considerably tense (for example, several types of glass for the FMVS [Federal Ministry of General Engineering], container and canning glass for the MZVz, etc., and even though it is not possible to assure all requirements for capacity reasons, it can be said generally that, in the majority of cases, the light industry is successfully fulfilling its deliveries of semifinished products and products for the other industrial sectors.

Anticipated Direction of Development in Light Industry After 1985

The task of light industry in the basic areas of utilizing production remains essentially preserved in the period 1981 through 1985, even though the tempo in the growth of deliveries--particularly with respect to relations with socialist countries--is slower than in previous periods. Similar tendencies can be anticipated even after 1985 and we anticipate that the following principal trends should prevail:

- i. the pace of production will continue to slow;
- ii. decisive emphasis will be placed on desirable structural changes in production, innovation of assortments and the quality of goods produced;
- iii. a more rapid growth of deliveries of extraordinary quality goods, particularly for the domestic market, is anticipated.

In the consumption of the basic representatives of light industry (footwear, clothing, upholstery and other domestic textiles, glass, porcelain, etc.) we can already today compare ourselves with the best in the world; however, the manner in which we can best approach the requirements and needs of consumers with respect to the structure and richness of the assortment of merchandise available remains a burning problem. Our goal should, therefore, be not to overly increase deliveries to the market inventories but to more expressly strengthen the production of goods of extraordinary quality where retail prices are formed freely by agreement between the producer and the trade sector and where the turnover tax is substantially higher than with respect to standard assortments of merchandise. Simultaneously, in the interest of further savings in materials, raw materials and energy, appropriate pressure must be exerted upon producers to specifically limit the production of merchandise of low quality which does not correspond to fashion trends, or to esthetic and utilitarian requirements, and reaction to changes in demand must be more elastic than heretofore, so as to prevent disruptions in supply and shortages in the types of goods which are in demand.

i. During the current period, our domestic trade purchases about 88 to 89 percent of all merchandise from private industry domestically, whereas it obtains the rest through imports from socialist and nonsocialist countries. We do not consider this ratio to be favorable and, in the interest of further brightening and expanding the assortment of goods offered, it will be desirable to increase the share of imported goods in all quality categories. In this connection, therefore, we must strive to intensify the exchange of consumer goods with the other CEMA countries (particularly the GDR, the Hungarian People's Republic, Yugoslavia and the USSR) and to structure imports from nonsocialist countries so that deliveries will include more products of lower and middle price ranges from the Third World, in addition to top products from developed countries (as is known, this form of trade is practiced by the majority of developed Western countries).

ii. We are faced by demanding tasks in the years to come, even in exports to socialist and nonsocialist countries. We must persuade our economic production units and our specialized ministries to see to the higher quality of export merchandise, in addition to quantity, much more thoroughly than heretofore so that products from decisive sectors of the light industry would become synonymous with top quality and fashion. In this sense, it will also be necessary to reevaluate existing export concepts harbored by our economic production units, including pricing and trade policies. In accomplishing exports to nonsocialist countries we cannot expect, even after 1985, a specific improvement over the current status. Sharp competition, protectionist policies, price and customs discrimination against our consumer goods can be anticipated

even in the years to come. Consequently, we must prevail primarily by those products which make the best possible use of national labor, raw materials and energy and products in which we achieve favorable export prices.

As far as the utilization of light industry products for production consumption in other sectors is concerned, the most demanding tasks face the glass and ceramics industry. Here, it will be a question of further expanding the products available and deliveries, particularly in the case of electric insulation fabrics made of fiberglass yarn, thermal insulation material and refractory yarns, semifinished products for television tubes, glass optical fibers, the most varied types of glass, glass laminates, medical ceramic equipment, etc. Our textile sectors, particularly the wool, cotton and linen sectors, should more than ever concentrate their production programs on the development of technical textiles (geotextiles, screens and felts for the paper industry, insulation for construction panels, inserts for batteries, filtration materials, etc.), whose application in the most varied sectors of our national economy results in specific savings of raw materials and materials (replacement of classically short supply materials), energy (electrical and thermal) but even capital construction, etc.

In conjunction with the further development of light industry, we must, of course, become aware that its long-range prospects will be considerably conditioned by the successful mastery of certain problems (they include, for example, an inadequate domestic engineering base, research, development and operational application of results in the chemical industry--innovative types of chemical fibers, plastics, etc.). Much will certainly depend on the kind of results we achieve in coordinating national economic plans with the socialist countries during the period 1986-1990. In subsequent portions of this article, therefore, some desirable directions of the further development of individual light industry sectors are indicated which, in our opinion, could contribute to a successful realization of future demanding tasks in this area.

Glass and Ceramics Industry

These sectors have an express export character and should also continue, in the long run, to contribute to the improvement of the foreign exchange balance of our foreign trade. Certain prerequisites for this exist (a broad technical-production experience, a high share of qualified specialists in the worker, technician and innovative professions, long years of tradition and a good reputation of some of our products on world markets--costume jewelry, glass brick, luxury glass and porcelain, etc., the ability to develop unique machines and installations, and so forth). On the other hand, its more rapid development is limited by certain barriers (a shortage of refractory materials and beneficiated fuels, an inadequate domestic engineering base, etc.). For the long run, attention should be focused here on the solution of the following questions:

1. with respect to the raw materials base, improve the quality of silica sands and gradually eliminate the export of first-class kaolin (Sedlec Ia);

ii. with respect to the power economy: work up a program for lowering the consumption of fuels and energy (halting obsolescent operations, introducing more energy-efficient technology, better utilization of waste heat and glass-making scraps, selection of heating media, etc.);

iii. evaluate the possibilities of the future utilization of float glass stemming from the anticipated capacity Float II and the programmed production and utilization of glass fibers, glass laminates and glass-reinforced plastics;

iv. in the area of technical development, systematically follow the possibilities of development and application of certain new assortments of products (light-conducting fibers, optical glass, submicron-size fibers, heat insulation materials, etc.) and propose the most economically advantageous assortment of products as Czechoslovak specialized products in a program for the use of domestic, CEMA and possibly even nonsocialist country customs;

v. in the area of external relations, a program of increased exports of selected glass and porcelain industry merchandise needs to be worked out which would result in improving the foreign trade balance;

vi. a program for the development of the engineering base for these sectors, encompassing both engineering enterprises of the appropriate economic production units of the light industry, as well as enterprises within the framework of the engineering sector, needs to be prepared;

vii. attention must be paid to the more intensive utilization of secondary raw materials, particularly of scrap glass, and their share in the glass industry must be expressly increased.

Textile and Clothing Industry

The textile and clothing industry in the majority of world countries is currently undergoing a period of long-lasting stagnation or crisis and the prognosis of development for 1985 is uncertain. In Czechoslovakia, the following aspects will have a special influence on the future development of these sectors:

i. the ability of the Czechoslovak economy to find and develop other industrial branches which contribute more to the foreign currency balance and which would, in part, take over the existing high export tasks assigned to these sectors;

ii. further development in western Europe, the United States and in the Third World and the closely related trade policies for placing our textile and clothing goods in nonsocialist markets;

iii. realistic possibilities for assuring raw material resources (natural fibers, synthetic fibers of a higher generation) and modernization and reconstruction of operations with the aid of machines and installations imported from free currency areas and from socialist countries.

In the area of investment policy, primary emphasis should be placed on the modernization of weaving plants, spinning mills, dressing plants and beneficiation plants and on the reconstruction of obsolescent energy units. Attention must be paid also to the solution of ecological problems (cleansing of wastewater, processing of secondary textile raw materials) and to the higher utilization of lower-quality Soviet cotton.

The future development of the textile and clothing industry should be managed over the next few years in such a way that the following problems would mainly be solved:

i. with respect to the raw materials base, appropriate attention should be devoted to a development of domestic production of natural fibers; areas planted to flax should be optimized and yields should be increased so that dependence on imports would be gradually eliminated; in the case of wool, measures to expand the keeping of sheep should be proposed in such a way that their production, over the next 10 to 15 years, approaches double the current herd; in the wool industry the innovation of the selection of fibers should be assured, particularly the development of production of specialized types, styles and modification; in specialized chemistry the necessary dyes, textile auxiliary preparations, etc., need to be assured;

ii. a more effective utilization of all types of fibers, particularly those that are obtained through imports, through the achievement of higher deniers with respect to fibers; gradually, the importation of cotton and wool fibers should be restricted and the weight of cotton fabrics should be reduced;

iii. a program for processing and application of secondary textile raw materials, particularly those for which we do not now have adequate utilizations, needs to be realized; they should be utilized, primarily, in the production of nonwoven textiles for technical and dwelling purposes;

iv. a group of measures for the gradual removal of foreign piecework (dressing of synthetic fibers, sewing of work clothes and linens, etc.) should be proposed; forms and volumes of imported finished textile products from developing countries should be established;

v. in the production of knitted goods and outer garments and personal linens, specific attention should be paid to the expansion of deliveries of extraordinary quality goods for the domestic market, their share in the overall volume of delivery should be systematically increased; and this tendency should be suitably stimulated with both producers and in the actual sales outlets;

vi. with respect to exports, the share of merchandise which yields the highest net hard currency earnings per koruna of expended wage costs should be systematically increased. In this connection an analysis of conditions and a set of measures according to which the above-stated tendencies will be possible to realize, should be prepared (raw materials, machinery, price and wage policy, etc.);

vii. attention should also be concentrated on savings of energy resources (reconstruction of old boilerrooms, recovery of heat in dressing plants, installation of new and productive but more energy efficient technology, etc.);

viii. in conjunction with all the above directions, a concrete program of modernization of the textile and clothing industry, including suggestions for assuring the availability of decisive machinery, installations and spare parts and the distribution of manpower to the most important localities in the CSR and SSR, should be prepared.

Leatherworking Industry

The Czechoslovak leatherworking industry belongs to those sectors which have a high dependence on the importation of raw materials--virtually one-half of the total consumed quantity is imported, primarily from developed capitalist nations (United States, Canada, etc.). The majority of prognoses agree in the view that prices of raw and semitanned cowhides and other raw materials will continue to grow. We must take this fact into consideration in devising the further development of the leatherworking industry and, at the same time, we must keep in mind that the domestic market is more or less covered with goods from this industry (for example, in the consumption of footwear per capita--4.4 pairs--we rank as one of the highest countries in the world). Thus, rather than counting on a material growth, it is necessary to assure, over the next few years, a more rapid change in the assortment with a higher share of higher-quality and more labor-intensive goods. For the future, it is anticipated that:

i. in tannery production, the share of soft hides, suitable for select and luxury footwear should be gradually increased (up to 80 percent of the production of flat hides) accompanied by the more effective utilization of leather;

ii. in secondary production, it is necessary to continue to maintain the dominant position of shoe production while keeping in mind domestic and foreign requirements for fashionable footwear and reducing mass production so that the requirements of the market can be more elastically reacted to and export capability could be increased;

iii. in this sector, the most progressive experiences of science and research should be utilized, for example, direct spraying for all types of footwear should be introduced, the assortment of upper materials should be increased, the production of molded footwear should be increased and productivity in creating patterns should be increased, etc.;

iv. in the interest of further reducing the energy requirements in the industry, some measures (such as improvements in technology in producing glue and in drying hides, the utilization of waste heat arising from vulcanization and drying, an increase in the degree of automation in production and an improvement in the organization of work, particularly in the materials-handling sector, etc.) should be implemented;

v. in the production of leather fancy goods, more emphasis should be placed on the processing of synthetic materials; in glove production, the production of gloves from hides and the expansion of production of quenched working gloves including PVC and having an essentially higher life span should be further increased; in the production of products from hides and plastics, the extent of production with respect to those groups which don't have the required mass production prospects should be limited and greater attention should be paid to the production of sporting goods (balls, sports bags, ice hockey gloves, etc.);

vi. the fur industry production should be oriented primarily toward items with a high level of tanning and production processing; sales opportunities for ready-made fur clothing from domestic raw materials (rabbits and nutria) and cooperation with the USSR in the finalization of production should be considered;

vii. in conjunction with the above tasks, a complete program of modernization of all areas of the leatherworking industry, including the setting of requirements for machine installations and equipment which would assure an increase in domestic raw material sources (cowhides, pigskins, sheepskins, goatskins and the required leatherworking fixings) and would lead to an expansion of production of domestic high-quality skins and hides for various use areas and would thus, limit, or in a majority of cases even replace, the need to import them from nonsocialist countries.

Polygraphic Industry

This sector should orient itself, in conformity with the cultural-political and economic goals of our state, in the following directions over the next few years:

i. it should, more rapidly than heretofore, increase the production of economic printed matter for the use of the automatic data processing sector, stabilize the production of periodicals, concentrate interest in the nonperiodical press area on improving the level of technical publications, encyclopedic dictionaries, etc.;

ii. utilize technical innovations in the industry (higher utilization of photocomposition, automation of the production of folded printed forms, develop autoelectronic reproduction techniques and offset technology, etc.).

The light industry occupies an important position in our economy, both from the standpoint of deliveries to the domestic market, as well as from the standpoint of external economic relationships. The maintenance and possibly the further strengthening of this position in the coming years will require:

i. the modernization of the production and technical base with an appropriate orientation toward a desirable structural change, innovation of the assortment of products produced and an increase in the delivery of goods of extraordinary quality;

ii. the seeking of effective ways to reduce the dependence of production of imports from nonsocialist countries and an improvement in the foreign trade balance, particularly with respect to developed capitalistic countries;

iii. a reduction in the energy demands of the industry, removal of unfavorable influences of production upon the environment (wastewater, more effective utilization of secondary raw materials, etc.). These tendencies will have to emanate from our own production processes; they will have to be closely tied to the mechanical engineering base and will have to be closely connected with the international division of labor involving the socialist countries.

7045

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CZECHOSLOVAKIA

ECONOMIST REJECTS MARKET-ORIENTED SYSTEM CHANGES

AU201207 Prague RUDE PRAVO in Czech 17 May 85 p 4

[Article by Professor Engineer Zdenek Haba, candidate of sciences, staff member of the Economic Institute of the Czechoslovak Academy of Sciences; "Political and Economic Management; The Role of the Subjective Factor in the Development of our Economy"]

[Excerpts] The main current task of the CPCZ's economic policy is to effect a transition from the predominantly extensive to a predominantly intensive economic development. This is a task of historic importance in the full sense of this word. Its successful fulfillment is unthinkable without the total commitment of all managerial and executive links of our economic life, without a further pronounced activation of the subjective factor in the development of our economy.

The key role of the subjective factor in the socialist economy is an expression of the importance of the subjective factor in the socialist system in general. It was only due to the purposeful, organized activity of the revolutionary workers class and its allies that socialism came into being and only due to the purposeful and organized activity of people's masses, led by the Communist Party, that it has assumed its present historical form. The quality of the activity of the subjective factor will also substantially determine the further development of socialism. As socialism and the socialist economic order grow gradually more mature, the role of the subjective factor, and, simultaneously, its responsibility for its own fate, does not decline but, on the contrary, it markedly increases.

It is important, however, that the subjective element, which is inevitably present in every economic activity, not turn into a subjectivist element, into the overestimation of the role of the subject. Subjectivism and voluntarism--that is, irrational, arbitrary conduct proceeding from one-sided experience and from partial interest--are great enemies of a wholesome development of the socialist economy. Subjectivism and voluntarism run sharply counter to the principles of socialist economic management. However, they are not caused by the faulty character of some managers (and, as such, cannot be eliminated simply by their replacement). They must be fought by a consistent application of the principles of democratic centralism, by linking the power to decide with full accountability for the adopted decisions, and by comprehensive social control.

However, the disease of subjectivism cannot be healed through attempts to suppress the importance of the subjective factor by arguing that, due to the influence of the objective economic laws of socialism, the necessary and needed development will assert itself on its own, automatically, by the sheer force of economic instruments. Motions of this sort weaken responsibility and initiative and result in the underestimation of, and the failure to utilize specific incentives for the development of production stemming from the special nature of the subjective factor of production as a human factor with its creative potentials, interests, initiative, and activity. They lead to passivity in management, to management trailing behind the urgent needs of national economic development, and to unjustified self-gratification by the results achieved.

Our knowledge of the economic mechanism of the socialist society is based, to a great extent, on experiences from the predominantly extensive type of economic growth. The specific system of economic information, too, has been built primarily on the basis of the needs of this type of development.

Today, this knowledge and these experiences no longer suffice. The transition to a predominantly intensive type of development signifies a substantial change in management, it signifies the transition to a qualitatively higher level of socialist management. However, the called-for and necessary changes in the system of planned management must be based on verified scientific findings. The calls on the scientific economic front to step up its efforts in solving these problems are an expression of the urgent social need to make faster progress in this area.

Sometimes we come across the view that there is a very simple solution to all these problems--the self-regulatory function of the market. Supposedly, central state planning needlessly sets itself a task that is very difficult to solve by trying on the enterprises' production plans. Enterprises are supposedly themselves capable of finding production programs corresponding to the needs of society. And where will the enterprises get their information about the needs of society? From the market, the argument goes. Indeed, market information is not only useful, but necessary. But is it sufficient? After all, the confrontation on the market occurs only after the goods have been produced, which is too late. This situation could be forestalled by a correctly set plan. Besides, the market is not capable of telling us anything about society's long-term priorities; about its social, health care, and cultural-educational requirements; about the needs of state defense; about the protection of the environment; or about the designated directions of the structural rebuilding of production according to the needs of the scientific and technological revolution. Market information is therefore not, and cannot be, sufficient and central state planning must therefore always remain the indispensable basis for the development of the socialist economy, although, of course, this does not have to be exactly in the concrete form in which it exists in our society today and which we are trying to improve.

All this, in a broader sense, applies to economic management as a whole. The fundamental aim of the socialist society does not have merely an economic

dimension--it comprises an all-round development of man and all aspects of his life. The sequence of priorities of the varied, economic as well as non-economic, needs of society and the distribution of resources for satisfying these needs--that is a matter concerning the social system. It is up to the political bodies, which unify all viewpoints and express the interests of the progressive development of the whole society, to take such decisions. Economic management is, therefore, and must be, subordinated to political management and cannot be separated from it, despite all its relative independence.

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CZECHOSLOVAKIA

NUCLEAR ENERGY, CSSR POWER MANAGEMENT RELATED

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[Text] Ongoing work on the Eighth 5-Year Plan and the long-range outlook of national economic and energy development demonstrates that in the future the Czechoslovak economy will be increasingly driven to the exploitation of nuclear energy. Given very restricted leeway in choosing alternative energy expansion, it is possible to obtain a source only by building up nuclear energy production and exploiting nuclear fuel. The nuclear source will effectively meet growing demands for raw energy and replace expected shrinkage in the previously predominant fossil fuel sources produced at home and imported.

Expansion of nuclear energy, which produces electricity and heat by concentrated large capacity generation, will not only satisfactorily solve the overall source problems of the CSSR's future energy accounting, but will simultaneously form the preconditions for a modern restructuring of user energy consumption by quantitatively increasing the amount of electrical energy.

For whole decades the structure of energy consumption in the CSSR has been characterized by a disproportionately high use of coal. From the standpoint of economic efficiency, it will not be possible to correct this by increasing the relative amount of superior types of fossil fuels consumed, in particular petroleum products, before the beginning of the 1980's. Their use, however, will have to be limited in those areas of energy consumption which for technological or ecological reasons must be supplied with quality types of energy sources. The solution is to turn to the use of electricity, which because of its application qualities represents one of the most superior energy forms. Increasing its quantitative share in the CSSR's structure of energy consumption by deliveries from nuclear power plants will satisfy the demands of scientific and technical development as well as the necessity of accelerating those elements of the economy which work to intensify expansion by introducing progressive electrotechnical innovations and processes in manufacturing. These then rationalize energy consumption and pass on more of the value of exploited energy sources.

The above points further establish the importance of exploiting nuclear energy, which is a unique energy source of pivotal importance for resolving the source and consumption aspects of the CSSR's energy accounting on a level that satisfies an intensive, energy efficient type of economic development.

The Development of Nuclear Energy Sources and Nuclear Energy

Previous prognostic studies and analyses, and also the related preparation of draft decisions put forth as proposals for the midterm plan, demonstrate that there is only very limited leeway in choosing suitable and efficient alternatives for expanding individual sectors of Czechoslovak power management in order to meet even scaled down prospective increases in domestic consumption of primary energy sources. It will be possible to conserve these sources only by first mastering critical rationalization tasks in fuel and energy consumption.

Latitude in selecting admissible variants in development from among the most important energy sources according to volume is essentially limited to the alternative relation between the rate of nuclear energy development and increased importation of natural gas. The latter depends, in large part, upon expanding complex international cooperation for exporting gas from the USSR to countries in Central and Western Europe, and on the time frame for constructing and bringing into operation more long, cross-continental pipelines. In contrast, latitude in selecting among variants of development in current nuclear energy, which is based on multiple construction of generating equipment available in the industry, is substantially greater. In addition, nuclear energy can be adapted to contemplated demands caused by growth in energy consumption as well as to future circumstantial maintenance of an energy balance. The capacity for generating nuclear energy, which is intended to supplement electrical and thermal energy, can be constructed near key consumption centers in the state without expenditures for erecting new fuel transportation capacity. Transportation of highly concentrated nuclear fuel can be provided on existing railways and the highway system. The transportation costs of nuclear active products depend little upon their place of assembly and, as has already been stated, they produce a substantial amount of electrical energy, i.e., a source of electricity which is able to accelerate the intensifying elements of economic expansion.

Future reduction in the disposable amounts of oil and coal, which are proportionately still the most important sources in the CSSR's energy accounting, must be taken into account. The necessary extent of this reduction in the next 5 to 20 years is largely undetermined. Possibilities still exist for implementing measures to guarantee a transitional increase in sources from all types of fossil fuels being used, including sources of domestic coal. A relative balance of fuel sources and consumption can be attained in such a way for only a short while.

As concerns petroleum, in the CSSR, imports supply the total (99.5 percent) amount. The difficulty of achieving satisfactory foreign trade conditions would be a factor in its consideration. Significant depletion of accounted for reserves of coal and our unpreparedness to mine previously unaccounted for coal reserves stand in the way of increasing coal sources. Among other impediments to increasing coal production it is possible to name the rapid growth in specific unit investment and operational expenditures for newly developed energy as well as ecological problems connected with burning an increasing amount of

low quality coal. The Czechoslovak coal industry annually extracts almost 3 percent of counted and proven soft coal reserves. Coal has been able to maintain its dominant position in our energy accounting only because of such a high average annual level of extraction versus accounted for geological reserves. In most coal producing countries average annual production versus accounted for geological reserves is substantially lower than in the CSSR--by as much as a factor of two. Even if it is possible to increase the accounted for volume of reserves by reevaluating and recategorizing geological reserves, further escalation of coal production in the CSSR would not be an economically efficient way of solving the energy problem. In contemplating the future we may justifiably assume a gradual reduction of coal production in the CSSR to perhaps a level of 15-20 percent of today's production by the year 2000.

Exploitation of the remaining, economically feasible hydroelectric potential in waterways is the only significant possible contribution to be had from non-nuclear energy sources of nonfossil origin: an annual maximum addition of 4.5×10^6 Mw electric power production could be obtained. This involves, specifically, finishing construction on hydro power stations on the Danube, construction of the Vah cascade, and the selection of suitable moderate size and small power stations. The development of hydroelectric power, which means exploitation of a reusable natural energy source, must also proceed with consistent application of economic efficiency criteria. Occasionally, the proposed investment plans for hydro power stations unjustifiably project the construction of stations with specific investment expenditures for unit output which are several times higher than those for the most expensive nuclear power stations. Given the very small amount of annual electrical generation, the construction costs of these hydro power stations would not be recouped even in 50 years. Often, too, their energy contribution is unobjectively overrated; and furthermore, these sources are of rather local importance. The small hydro power stations could not even match present daily Czechoslovak consumption of electricity with their annual production, even after renovation of their operations at all previously used localities, of which there are several hundred, and the contingent construction of others, which require a long time and appreciable funds. The average annual generation of electricity at all Czechoslovak hydro power stations (not including reverse pumping ones), even after completion of construction on the Danube stations and other large hydro power stations, will only be equal to the amount of electricity it is possible to generate at a single 1000 Mw VVER [boiling water reactor]. Moreover, less than one-half of the annual generation of Czechoslovak hydro power plants (not including reverse pumping ones) is electricity of a superior type. The remainder is characterized as so-called basic electricity, as in the case of deliveries from nuclear power plants.

The contribution of so-called non-traditional sources--exploitation of geothermal, solar and wind energy; the energy of a biomass for producing gas, alcohol or heat; heat pumps--is difficult to quantify precisely. These are sources of small scope whose economic efficiency presently varies and which is in a series of specific instances also problematical.

The use of heat pumps, which increase the value of heat from the natural environment, exit heat, thermal water heat and solar heat, deserves special attention. Economic studies point to the advantages of using heat pumps in industry, in smaller manufacturing and nonmanufacturing organizations, and by individual consumers. It is estimated that the technical and economic prerequisites for widespread use of heat pumps in the CSSR will be formed in 5 to 10 years.

The use of solar energy meanwhile has most widespread application in agriculture. In 1985 there may be about 235 thousand m² of solar collectors in operation in the CSSR, and in 1990 approximately 950 thousand m². The technical service life of this equipment, which at current purchase costs would have to equal 12 to 15 years if the source is to be profitable, presents an economic risk.

The use of energy from geothermal water is foreseen primarily in Slovakia, where suitable conditions exist in the Danube basin, the Ziarska depression, in the vicinity of Topolcany, in the Banovska depression and elsewhere. The estimated exploitable potential of geothermal water is equivalent to 600 thermal Mw.

The use of wind energy is for the time being concentrated only at installations with apparatuses for production of up to 2 kw. Around the year 2000 it may be possible to install larger units, but only in special cases, because from the point of view of economic efficiency it is necessary to achieve a reduction of roughly one-half in the investment expenditures for these apparatuses.

Worldwide the expansion of nuclear energy, the newest sector, is motivated not only by the successful resolution of the physical and technical problems of constructing and operating nuclear plants so as to ensure their maximum reliability and safety, but also by the acknowledged economic and ecological record of already operational plants. The competitiveness of energy produced by nuclear fission as compared with traditional energy sources is being enhanced because of rapidly growing costs for expanding the sources of previously predominant fossil fuels--coal, petroleum, and natural gas; and it will further increase dynamically because of difficult future accessibility to these natural energy sources in the needed quantity and quality.

Economically justifiable comparisons of the prospective relations between non-nuclear and nuclear energy sources must be weighed when selecting developmental strategies, programs and plans for individual sectors of Czechoslovak energy production--namely, the coal industry, natural gas, the petroleum fuels industry, hydroelectric energy, nuclear energy, electrical energy, and thermal generation.

Prognostic studies done in the CSSR in 1982 and 1983 have determined that nuclear energy should be developed within the framework of the Czechoslovak generating system so that, in the interests of dealing with changes in the supply of traditional energy sources and maintaining a balance in future energy accounting, the following key plans will be fulfilled (tables 1-3):

a. Use at least 15 percent nuclear fuel by the year 2000 and at least 28 percent by 2010 to meet domestic consumption of primary energy sources.

b. In the second half of the 1990's achieve a 50 percent ration of energy produced at nuclear plants to total electrical energy by gradually limiting fossil fuel generation; and further raise that ratio to approximately 55 percent by 2000 and 65-70 percent by 2010.

Table 1. Tendencies in the Development of Key Primary Energy Sources in the CSSR (Percent, 1980 = 100 percent)

| Item | 1980 | 1990 | 2000 | 2010 | 2020 |
|--|------|-------|--------|--------|--------|
| Domestic anthracite | | 94.2 | 86.1 | 77.4 | 66.8 |
| Imported anthracite | | 95.5 | 95.5 | 88.0 | 72.3 |
| Total bituminous | | 95.4 | 84.2 | 75.5 | 57.9 |
| Total petroleum | | 77.3 | 65.0 | 55.5 | 47.9 |
| Total natural gas | | 142.4 | 166.0 | 176.0 | 176.0 |
| Total primary electrical | | 341.5 | 651.0 | 990.0 | 1330.0 |
| Energy from: | | | | | |
| Nuclear power plants | | 587.0 | 1255.0 | 1960.0 | 2640.0 |
| Hydro power plants | | | 148.2 | 152.2 | 164.0 |
| Imports | | 326.0 | 326.0 | 543.0 | 815.0 |
| Ratio of each type in domestic consumption (percent) | | | | | |
| Fossil fuels | 94.7 | 89.8 | 79.6 | 60.5 | 49.0 |
| Nuclear energy | 1.5 | 7.5 | 15.4 | 28.5 | 35.0 |
| Hydro energy | 3.8 | 2.7 | 5.0 | 11.0 | 16.0 |

Table 2. Developmental Tendencies in the Structure of Electrical Energy in the CSSR (Percent, 1980 = 100 Percent)

| Ratio of Each type | 1980 | 1990 | 2000 | 2010 | 2020 |
|---|------|------|------|------|------|
| Fossil fuel power plants | 85.6 | 58.7 | 35.2 | 23.2 | 13.3 |
| Nuclear power plants | 6.1 | 30.2 | 53.3 | 64.8 | 73.4 |
| Hydro power plants (without PVE [reversible pumping]) | 5.8 | 4.3 | 5.9 | 4.7 | 4.6 |
| Import-export balance | 2.5 | 6.8 | 5.6 | 7.3 | 10.7 |

Table 3. Tendencies in the Development of Centralized Heat Sources in the CSSR*

| | <u>1980</u> | <u>1990</u> | <u>2000</u> | <u>2010</u> | <u>2020</u> |
|---|-------------|-------------|-------------|-------------|-------------|
| Growth in centralized sources of heat (percent, 1980 = 100 percent) | 100.0 | 115.5 | 133.0 | 153.0 | 167.0 |
| Ratio of each type of source (percent) | | | | | |
| Fossil fuel heat and condensing power stations | 60.48 | 61.3 | 57.8 | 53.4 | 49.4 |
| Fossil fuel heating stations | 32.6 | 27.6 | 26.9 | 22.3 | 15.8 |
| Nuclear sources | 0.02 | 0.4 | 5.0 | 8.7 | 14.2 |
| Waste heat | 6.9 | 10.7 | 10.0 | 14.3 | 13.6 |
| Heat pumps | | | 0.2 | 0.8 | 5.8 |
| Geothermal sources | | | 0.1 | 0.5 | 1.2 |

*In 1980 centralized heat sources accounted for 62 percent of total heat consumption in the CSSR.

Expansion of Nuclear Energy Generating Capacity

The current situation in locating new nuclear power plants and progress in seeing their construction through will especially determine the intensity of nuclear energy's impact on the CSSR's energy accounting for the next 10 to 15 years. Everything indicates that this situation will be satisfactory, and that it will not be a great obstacle to mastering the tasks laid out in the area of nuclear power.

During the last two 5-year plans the basis for expanding the build up of nuclear energy has been established in metallurgical and engineering factories. This basis already exists in construction and power engineering at a stage where the initial difficulties connected with the acute growth in the required supplies for technical equipment, building and assembly work are being overcome. The extent of these requirements, which were brought about and spurred by investments, surpasses all previous building on our territory. Since 1974, when a cooperative agreement was signed between the governments of the CSSR and the USSR on the manufacture of nuclear equipment for reactors of the VVER-440 type, Czechoslovak engineers have mastered the construction of almost all of the components. After satisfying domestic needs, approximately 50 percent of the production of this equipment is exported to CEMA member states. According to the "CSSR-USSR Cooperative Program for Developing Nuclear Energy in the CSSR until 1990," which was signed in 1980, and related inter-governmental agreements, the construction of twelve nuclear blocks is being carried out in Jaslovské Bohunice, Dukovany and Mochovce. In addition, preparatory work was launched on the construction of four nuclear blocks with VVER-1000 reactors at Temelin.

Of the twelve VVER-440 blocks mentioned, two have been in operation since 1978 and 1980 at nuclear power plant V-1 in Jaslovske Bohunice. Six more are in the final stage of construction and assembly and should commence operating between 1984-1987. Of these, two are in nuclear power plant V-2 at Jaslovske Bohunice and four at Dukovany. Construction of the remaining four blocks is in the initial stage at the building site of the Mochovce nuclear power plant. These 12 VVER-440 blocks, with a total output of 5280 Mw, will be in full operation at the beginning of the 1990's. They will be able to generate annually a peak of about 35×10^6 Mw, of which approximately 50 percent is intended for meeting increases in electrical consumption, and 50 percent is for replacing the gradually shrinking volume of electricity generated from fossil fuels. Four million tons of bituminous coal with a calorie content matching the average now being delivered to Czechoslovak public power plants would be needed in order to generate the same amount of electricity in coal power plants. This represents approximately 40 percent of the CSSR's annual coal production.

The majority of the VVER-440 blocks completed will not only be exploited for electrical generation, but also for supplying heat and hot water to industrial and municipal customers. Two turbines with an output of 220 Mw will be installed in the V-2 nuclear power plant blocks at Jaslovske Bohunice and Dukovany. Each of these turbines will allow removal of a maximum thermal product of 85 Mw in thermal units in a 3-stage heating of the water from 70°C-145°C, while simultaneously reducing electrical output by 11.9 Mw. The average calculated thermal output versus lost electrical output is equivalent to the ratio 1:7.1. Combining electrical generation and heat production enhances the resulting energy operation of the block and the use of nuclear fuel. The turbines for the VVER-440 blocks at the Mochovce nuclear power plant will be adapted so that a heat product of up to 120 thermal Mw may be taken from each.

Presently, the first Czechoslovak hot water conduit for supplying heat from nuclear power plants is already being built in the area between Jaslovske Bohunice and Trnava. The hot water conduit has two pipelines with an average width of 700 mm. It is 23 km long, has a heat product of 250 Mw in thermal units, and will become operational in 1985. The construction of hot water conduits and expansion of heat supplies for the cities of Hlokovce and Leopoldov will be considered later. Possibilities are being discussed for delivering heat from Jaslovske Bohunice to Bratislava, Dukovany to Brno, and Mochovce to Levice, Nitra and Tlmacy. Heat deliveries from nuclear power plants to Bratislava could save approximately 300,000 tons of fuel oil and 150 million m³ of natural gas annually; in Brno, approximately 200 million m³ of natural gas. Deliveries of heat from nuclear power plants will lead to reduced air pollution from the burning of fossil fuels and thus to an improvement in the living environment in the above-mentioned places.

In the period after 1990, when the construction of the twelve VVER-440 blocks has been completed, and roughly up to the end of the first decade of the next century, additions to the generating capacity of Czechoslovak nuclear power plants will presumably be supplied for the most part by construction of blocks with VVER-1000 heavy water reactors, which have an individual output of 1000 Mw,

or more efficient reactors of the same type. These blocks will be provided with 1000 Mw turbines which will facilitate the removal of heat at a peak of 900 thermal Mw during a 3-stage heating of water to 150°C. This means that the possibilities for supplying heat from nuclear power plants will increase significantly with the construction of these blocks, assuming that they are built near large urban and industrial concentrations. Thus the selection of building sites for the VVER-1000 blocks is also subject to the criterion of their thermal energy use. For instance, if these blocks were to be built at the prepared site in eastern Slovakia, the conditions would be formed for supplying heat to the urban concentrations at Kosice and Presov. As the construction of the centralized system was gradually extended, heat would be supplied to even more nearby towns in eastern Slovakia, including those tied into existing area public and factory heat stations. Localities in eastern Bohemia are turning to northern Moravia because of an analogous decision to construct a VVER-1000 block for generating heat.

Converting to blocks with VVER 1000 reactors brings a significant savings in necessary materials, simultaneously improves the burning level of the nuclear fuel employed, and improves the power system's efficiency (table 4).

Table 4. A Comparison of the Technical-Economic Parameters of Nuclear Power Units with VVER-440 and VVER-1000 Reactors

| | Measure | VVER-440 | VVER-1000 | VVER-1000 VVER-440 |
|---|------------|-------------|-------------|-----------------------|
| Electrical output | Mw | 440 | 1000 | 2.27 |
| Thermal output | thermal Mw | 1375 | 3000 | 2.18 |
| Reactor vessel diameter | mm | 3560 | 4070 | 1.14 |
| Active zone diameter | mm | 2880 | 3120 | 1.08 |
| Active zone height | mm | 2420 | 3500 | 1.45 |
| Number of chambers | units | 349 | 163 | .47 |
| Fuel load (UO ₂) | tons | 42 | 66.4 | 1.58 |
| Mean value of burned fuel | Mwd/kg | 28 | 40 | 1.43 |
| Fuel enrichment with isotope U-235 | Percent | 3.5 percent | 4.4 percent | 1.26 |
| Metal consumption in reactor equipment | tons | | | .63 |
| Reduction in specific concrete and reinforced concrete volume | tons | | | .66 |
| System efficiency | Percent | 30.3 | 33.3 | 111.0 |

At the present time the serviceability and efficiency of constructing nuclear heating plants as single-purpose heat sources, and using hot water transmission to industrial and municipal customers, are being reviewed in light of the results of Soviet research and development. Nuclear heat plants with 500 Mw thermal reactors are already being built in prototype form in the USSR.

Thermal deliveries from one 500 thermal Mw nuclear heat plant reactor can approximate the heat received from two turbines on the power plant block with which the VVER-440 is equipped, or one-third to one-half of possible heat taken from a VVER-1000 unit's turbine. Moreover, with respect to the combined generation of heat and electricity, nuclear power stations with heat removal will be even more efficiently used in the course of a whole year and at the end of the heating season.

This circumstance must be taken into account when evaluating single-purpose nuclear heating plants' economic efficiency and serviceability. Savings in liquid and gas fuels which will be achieved in particular locales by construction of nuclear heating plants may be a generally superior criterion. On the other hand, direct use of electricity supplied by nuclear power plants for generating heat may also be an equivalent alternative to constructing nuclear heating plants. Reserves of unused potential heat extractions from nuclear power plant condensers will evidently exist a long time. They will be used for power and heat. Already by the year 1990 Czechoslovak power engineering will have at its disposal a maximum power and heat output of approximately 1000 thermal Mw in completed nuclear power plants. Only about 50 percent of this output will be in use at one time. What is more, as in the similar case of coal power plants with condensers, for a variety of reasons only a small part of the low potential waste and waste heat sources from nuclear capacities will be used. These sources are suitable for speeding vegetation growth, thermal land reclamation, fish breeding, and other things. We have been discussing studies on the uses of these heat sources since the early 1970's. Their more widespread realization will require experimental testing, which is proposed for the Jaslovske Bohunice area.

The results of scientific and technical development of new types of nuclear energy equipment suggest the building and testing of industrial scale types of high-speed and multi-purpose high temperature reactors already at the turn of the century. They will produce high potential heat for the technological needs of the metallurgical or chemical industries. Experimental work aimed at developing and implementing this progressive nuclear equipment shows how expedient it will be to attempt a transition to construction of metallurgical-power or chemical-power system nuclear complexes in the CSSR, too.

The construction of already planned Czechoslovak nuclear power plants should be pursued so as to bring them to completion before 1998. This would mean that by the year 2000, in addition to the twelve VVER-440 blocks, there will also be four VVER-1000 blocks built and in operation at Temelin, for a total of 9280 Mw. Furthermore, it can be assumed that by 2000 one more VVER-1000 block will be brought into operation at a future Czechoslovak nuclear power plant, whose location is as yet undetermined. It follows, then, that by 2000 the Czechoslovak nuclear power system could possess a peak installed annual generation capacity of over 55×10^6 Mw, with the possibility of deriving a peak thermal output from completed nuclear power plants of approximately 6000 thermal Mw.

This level of nuclear generating capacity is satisfactory in view of the needs presented by long-range tendencies of development in other key primary sources which figure in the CSSR's energy accounting, as well as in the by-products of their energy conversions, that is, in the sources of electricity and thermal energy (Tables 1-3).

Given the expected reduction in coal and oil sources, nuclear energy would have to be developed in the period 1985-2000 in such a way that:

the growth of primary energy nuclear generating capacity would exceed by up to 60-70 percent the projected growth in domestic consumption of primary energy sources;

growth in electrical generation at nuclear power plants would be equivalent to at least 45×10^6 Mw, and, with a growth in primary electrical generation at hydro power plants at a peak of 3×10^6 Mw it would meet the growth in domestic consumption of electricity and also allow a reduction in fossil fuel electrical generation by at least 20×10^6 Mw;

by the year 2000 at least a 5 percent share of the sources delivered for heat be from public, factory and municipal centralized heat sources as a result of expansion in generation of heat delivered from nuclear sources.

Nuclear Energy and Rationalization of Energy Consumption

The development of nuclear energy is closely connected with the formation of preconditions for a very marked advance in the Czechoslovak economy, which would take place in rationalization of energy consumption and value enhancement of energy sources in the framework of the productive life cycle. This would result from the projected gradual decline in fossil fuel consumption, in particular of domestic coal and petroleum products, which would lead to relatively very rapid source growth in so-called primary electricity generated from uranium fuel in nuclear power plants (Table 1). For this reason structural changes introducing electrical use, i.e., growth in the share of electrical consumption, especially to substitute for a shrinkage in superior fuels, will take place in the CSSR's energy consumption. This will facilitate modernization of the industrial, transportation and agricultural energy bases amid new conditions of development. The prerequisites will be formed for intensified rationalization and gradual elimination of uneconomical sources.

In analyzing and making international comparisons of the energy exigencies of the Czechoslovak economy, it is very often omitted that, in fact, relatively very low electric consumption accounts for a sizeable portion of inefficient energy use, part of which is connected with an unsuitable pattern of energy source exploitation. Investigations have determined that if we were to have to achieve current Czechoslovak industrial production on the technical level of developed industrial states--according to their norms of consumption of energy sources--we would most of all lack a considerable quantity of electricity (20-30 percent), and an equivalent amount of coal would be left over. This would mean that, in fact, relatively slow advancement in the construction

of coal fired electric power and in conversion of coal energy to more superior electrical energy was one of the shortcomings in past development of the Czechoslovak energy base. As a result of this a high proportion of coal to final forms of energy consumption was preserved for a long time. This forced the existence of equally less progressive technology in related industrial sectors and was a source of inefficiency.

Consequently there exists considerable room for the expansion of nuclear electric power in the very structure of Czechoslovak energy consumption. While we occupy fourth place in the world behind the U.S.A., Canada and the GDR in per capita consumption of primary sources, we lag behind considerably in the per capita consumption of electricity: we are even in 14th place among European states. Two CEMA member states--the GDR and USSR--surpass the CSSR in per capita electrical consumption. According to the indicated established growth rate in consumption, and on the basis of information about anticipated additional capacities at the new nuclear plants, it can be assumed that in the next few years we will also fall behind the BPR in per capita energy consumption. Four new VVER-440 nuclear blocks are already in operation in Bulgaria's electrification program, and a VVER-1000 block should be brought into operation by 1986 (Table 5).

A review of data on the growth in primary energy sources and electricity provided for the Czechoslovak national economy in 5-year periods from 1960-1980 shows that the rate of growth in electrical consumption was long higher than the rate of growth in primary energy source consumption by a figure of up to 1.55-29.3. Between 1970-1980, however, a slowing occurred in the rate of electrification in Czechoslovak energy accounting. This slowing proceeded at a rate almost twice as fast as that quoted for the reduction in average annual increases in primary energy source consumption. This may be explained by the fact that, to a significantly greater degree, the rationalization effort was concentrated on savings of electricity rather than on consumption of primary energy sources.

In the current 5-year period, for the first time there is occurring a very marked increase in the rate of electrification with a coefficient value for flexibility as high as 6.8. Concurrently, both the growth in consumption of primary energy sources and consumption of electricity are slowing significantly. This is basically temporary. In the period up to 2000 there should be an effort to maintain stable favorable relations between growth in electrical consumption and primary energy sources. Furthermore, in the interests of perpetuating the intensifying factors embodied in electricity, the above-mentioned relations must be more positive than before 1970. The solution lies not only in the necessary rate of integrating nuclear electrical energy into Czechoslovak energy accounting; the consequent rate of electrification will also be significantly influenced by the potential level of fossil fuel electrical generation at already existing power plants.

Table 5. Order of European States According to Per Capita Electrical Consumption and Average Annual Increases in the Consumption since 1975

| | Per Capita Consumption of Electricity in 1980 | Average Annual Increase (Percent) | | |
|-------------------|--|-----------------------------------|-----------|-----------|
| | Kwh/per capita | 1975-1980 | 1979-1980 | 1980-1981 |
| 1. Norway | 20,119 | 2.9 | -1.2 | 2.0 |
| 2. Sweden | 11,323 | 3.4 | 0.3 | 3.4 |
| 3. Finland | 8,358 | 6.5 | 5.2 | 3.5 |
| 4. Switzerland | 6,036 | 3.7 | 4.1 | 2.5 |
| 5. FRG | 5,709 | 3.9 | 0.7 | 0.2 |
| 6. GDR | 5,273 | 3.2 | 2.5 | 2.1 |
| 7. Austria | 4,832 | 4.4 | 3.4 | 0.4 |
| 8. Belgium | 4,832 | 4.7 | -0.1 | 0.1 |
| 9. USSR | 4,806 | 4.4 | 4.3 | 2.3 |
| 10. Denmark | 4,742 | 5.6 | 0.3 | -1.3 |
| 11. Great Britain | 4,739 | 1.0 | -5.0 | -2.4 |
| 12. France | 4,631 | 6.6 | 5.5 | 3.8 |
| 13. Holland | 4,361 | 3.6 | -0.3 | -0.8 |
| 14. CSSR | 4,356 | 3.2 | 4.6 | 4.5 |
| 15. Bulgaria | 3,954 | 6.2 | 6.2 | 5.9 |
| 16. Italy | 3,160 | 5.0 | 2.8 | -0.6 |
| 17. Poland | 3,145 | 4.6 | 3.7 | -4.6 |
| 18. Rumania | 2,849 | 5.7 | 5.7 | 4.0 |
| 19. Hungary | 2,735 | 5.2 | 2.2 | 2.8 |
| 20. Spain | 2,724 | 5.7 | 3.8 | -- |
| 21. Yugoslavia | 2,386 | 6.8 | 3.5 | 1.1 |
| Europe | 4,257 | 4.4 | 2.7 | 1.3 |
| Canada | 14,179 | 5.0 | 4.9 | 1.2 |
| USA | 10,431 | 3.6 | 1.8 | -2.5 |
| EEC | 5,819 | 4.1 | 2.5 | -0.2 |

Table 6. Comparison of Growth in Primary Energy Source Consumption and Electrical Consumption in the CSSR, 1960-1985

| | 1961-65 | 1966-70 | 1971-75 | 1976-80 | 1981-85 |
|---|---------|---------|---------|---------|---------|
| 1. Average annual growth in consumption of primary energy sources (percent) | 4.73 | 2.52 | 2.8 | 2.06 | .25 |
| 2. Average annual growth in electrical consumption (percent) | 7.00 | 7.40 | 5.46 | 3.20 | 1.70 |
| 3. Coefficient of flexibility (2./1.) | 1.48 | 2.94 | 1.95 | 1.55 | 6.80 |

The structural changes in the CSSR's energy consumption which should be achieved in the period before 2000, given adherence to the developmental tendencies in Tables 1 and 2, may be characterized by the data in Table 7. With a reduction of 8.1 percent in the share of fossil fuel consumption for energy, there would be a 3.4 percent rise in the share of electricity, and a 4.7 percent rise in thermal energy. Given this constriction and the employed variant, a low average growth in the proportion of electricity to energy consumed will result from limiting electrical generation at fossil fuel power plants (Table 2). While these plants provided for 83.1 percent of electrical consumption in 1980, according to the employed variant, in the year 2000 this figure should be only 34.1 percent. Nuclear power plants' share in meeting electrical consumption would rise to 52 percent, employing the above-mentioned assumptions.

Table 7. Position of Nuclear Energy and Thermal Energy in Light of Structural Changes in the CSSR's Energy Consumption until 2000.

| | <u>1980</u> | <u>2000</u> | <u>Difference</u> <u>2000-1980</u> | <u>2000</u> <u>1980</u> |
|---|-------------|-------------|---------------------------------------|----------------------------|
| 1. Energy Consumption in the CSSR (Percent), from: | 100.0 | 100.0 | | |
| Fossil fuel, including: | 66.3 | 58.2 | -8.1 | 0.88 |
| coal | 31.2 | 25.9 | -5.3 | 0.83 |
| oil and natural gas | 35.1 | 32.3 | -2.8 | 0.92 |
| Thermal energy, | 23.4 | 28.1 | +4.7 | 1.20 |
| including nuclear | -- | 1.5 | +1.5 | |
| Electrical energy, including: | 10.3 | 13.7 | +3.4 | 1.33 |
| fossil fuel plants | 8.6 | 4.7 | -3.9 | 0.55 |
| hydroelectric plants | 0.9 | 1.9 | +1.0 | 2.11 |
| nuclear plants | 0.8 | 7.1 | +6.3 | 8.87 |
| 2. Consumption of electricity (Percent) from: | 100.0 | 100.0 | | |
| Fossil fuel plants | 83.1 | 34.2 | -48.9 | 0.41 |
| Hydroelectric plants | 9.2 | 13.8 | +4.6 | 1.50 |
| Nuclear plants | 7.7 | 52.0 | +44.3 | 5.75 |

It will be possible to deal with majority of the sources of fuel and energy inefficiency in Czechoslovak industry, transportation and agriculture (the necessary focusses of rationalization efforts) described thus far, while electrical consumption supplied from nuclear power plants grows concurrently, as follows:

--gradually reduce a substantial portion of unsatisfactory technologies by introducing modern electrotechnologies which decrease losses in production processes, better enhance the value of raw materials, and lower product masses;

--introduce more refined production technology, improve manufacturing equipment with measuring and regulating technology in order to optimize manufacturing processes, increase the amount of automatized production, implement robotics on a mass scale, electrify freight and passenger transportation, decrease the use of combustible liquid and gas fuels by employing electrical heat, decrease the amount of waste heat and energy losses in energy distribution, and employ heat pumps on a wide scale.

The Economic Efficiency of Nuclear Energy

Nuclear power plants' effect on the economy is more beneficial than that of traditional steam power plants in the vast majority of the 25 countries operating nuclear power plants. This also holds for the CSSR.

Table 8. Comparison of Costs of Nuclear and Traditional Power Plants

| Cost of Generating 1 Kwh | | | | | |
|--------------------------|-------------|-----------------------|--------------------|--------------------------|------------------|
| <u>Country</u> | <u>Unit</u> | <u>Nuclear plants</u> | <u>Coal plants</u> | <u>Fluid fuel plants</u> | <u>Ratio 1/2</u> |
| France | franc | 0.176 | 0.279 | 0.646 | .63 |
| Japan | yen | 12.5 | 14.0 | 17.0 | .89 |
| England | pence | 1.7520 | 2.3129 | | .76 |
| U.S.A. | cent | 3.1 | 3.5 | 7.0 | .89 |
| CSSR | halir | 13.3 | 22.1 | 56.6 | .60* |

*The CSSR's difference for 1983 resulted from calculations done at VC 40 percent. In this year there was only one nuclear plant operating in the CSSR--the V-1 at Jaslovske Bohunice--and it was built with lower specific investment expenditures than will be required for the construction of future nuclear capacities.

The data in Table 8 show that the electrical generating costs at nuclear plants in these countries are comparably lower than costs at coal power plants by 11-37 percent. The greatest difference is in France, which has the highest relative proportion of nuclear power plants for generating electricity (48.3 percent).

In the future, generating costs at nuclear power plants will be unfavorably influenced by their growing investment exigencies, which are caused in particular by refined safety measures and the necessity of equipping all future nuclear power plants with continually more perfected technical devices. These guarantee great reliability in plant operation, including protection of constructed objects and equipment against the results of an earthquake.

An objective discussion of the relative costs of nuclear and coal power plants demands complex cost comparison of the entire technological chain and of coal power electrical production (from mining costs of coal and uranium to disposal

of ash from burnt coal versus reprocessing spent nuclear fuel). Economic investigations indicate the advantage of nuclear electrical power production, even after including the costs connected with solving problems of the external fuel cycle, such as storage of spent fuel, its transport and reprocessing, and neutralization of radioactive wastes.

Another important factor favoring the development of nuclear energy is ecological. The operation of nuclear plants has no negative effect on the living environment and is not part of the critical resolution of ecological problems associated with energy development, as in the case of coal plant operation. It is likewise necessary to point out that nuclear plants' output replaces outdated coal power plants having significantly higher costs than that of the average value given in Table 8, which substantially increases their economic contribution. A further important factor is that the specific costs of nuclear plants favorably influences their high on-line time, which is made possible by high quality installed equipment and also by their operation in the basic part of the electrical load collecting diagram. In Czechoslovak conditions, the on-line time of nuclear plants in the near future will already be 30-50 percent greater than that of the average exploitation of coal power condensing plants, whose operation will be dependent on fuel possibilities. Thus the higher costs for depreciation of basic devices in nuclear plants also applies to the relatively higher amount of annual electrical production and thereby enhances their economic effects.

In 1982 nuclear plants were operating in 25 countries. Three states achieved the greatest relative proportion of electricity generated at nuclear plants--namely, France (48.3 percent), Belgium (45.9 percent), and Finland (41.5 percent). In Sweden, Bulgaria, Taiwan and Switzerland this proportion varied from 36.9-27.6 percent; in another six states, between 10-20 percent. First among socialist countries was Bulgaria, which had a 29.2 percent proportion of nuclear energy, then the GDR (12.5 percent) and the CSSR (7.2 percent). By 1990 nuclear plants should claim significantly high proportional figures vis-a-vis total electrical generation in several countries. They should be 70 percent in France, over 50 percent in Belgium, over 40 percent in Bulgaria and Sweden; over 30 percent in the FRG, Hungary and Spain; 20-30 percent in Finland, Switzerland and the U.S.A.; and approximately 26 percent in Czechoslovakia.

An important accelerating factor may also be the positive experience from the great accumulated operation time of nuclear energy installations over the course of many years. They have shown their reliability and safety, positive ecological contributions, economic efficiency and competitive viability as compared with fossil fuel burning installations.

While worldwide nuclear energy production has at its disposal the experience accrued from nuclear reactor operation at over 1000 Mw in an amount equal to approximately 3000 reactor years, only approximately one-third of these apply to the most widespread pressurized-water reactors with over 100 Mw output. The data on operational effects and experiences are centrally gathered and evaluated by the International Atomic Energy Agency. It has been demonstrated that previously over 80 percent of the down time of equipment in nuclear plants

with light-water reactors was caused by breakdowns in nonnuclear equipment, in particular turbines, in heat systems, and in other areas. Breakdowns in the nuclear components of the equipment are less significant. This is ascribed to stricter regulations and norms governing their manufacture, quality, maintenance and operation.

A trend toward standard planning, manufacturing and construction procedures is being intensely felt in nuclear plant construction. The most significant progress in these areas has been achieved in the Soviet Union and France. Standardization leads to shorter construction time, increased productivity, and economic efficiency of investment activities. Savings in investment expenditures by building multiples of the same nuclear energy blocks are estimated at between 10-25 percent. Investment expenditures are key to the economic competitiveness of nuclear power plants with traditional coal plants. In certain countries the specific investment expenditures for nuclear plants have risen by a figure of three or even five in recent years. However, in France, where highly standardized construction is being developed, expenditures have risen by only 50 percent.

The CSSR has also experienced rapid growth in specific investment costs for nuclear plants and high overruns in planned, budgeted expenditures. Investigations have shown that a satisfactory explanation cannot be sought only in increased technical exigencies of building for nuclear energy, which derive from ever more critical requirements for operating reliability and nuclear safety at existing installations. Much, but not all, can be explained in this way. There is an entire array of reasons for the rapid growth in investment expenditures for building Czechoslovak nuclear plants. Among them are cost increases of current material and equipment deliveries, which in a number of cases cannot be explained with reference to average fluctuation in the level of costs of other, similar products. Nuclear energy construction confronts construction contractors, assemblers and suppliers of technology with many very critical material and quality demands. The mechanism for projecting a higher level of supply quality for the price is thus not evenly defined, which, as it has been shown, allows inserting certain unjustifiable items into price calculations for supplies (e.g., rapid cost write off for research and development, inflation of labor costs, etc.). Other problems are the insufficient head start in project planning and budgeting for objects to be built, a large number of changes and additions to project documents, a larger number of objects to be built, amount of seed and concomitant investment, elimination of overlap in tasks set forth in the state plan by permitting various exceptions and increasing suppliers' interest. Although these problems were not satisfactorily dealt with, the important thing is that they not be repeated in construction of future nuclear plants.

The exact fulfillment of the plan for nuclear energy, which was outlined by the 16th Congress of the CPCZ, is fundamentally important for eliminating the shortcomings cited in the process of working out investment exigencies. The congress asked for "improvement in planning, preparation and carrying out of construction, including seed investment, and simplification of projecting

methods; consolidation of projecting, construction and assembly capacities; intensification of progress in construction work and perfection of its management; intent development of the related metallurgical, engineering, machine tool, and construction equipment base for domestic construction and export."

Nuclear energy has been given the key role in expanding energy sources for the Czechoslovak national economy and for providing a modern structure of energy consumption, which will lead to better enhancement of energy source value. In the areas of perfecting preparation and perspicacious construction management there exists significant room for achieving the developmental goals of nuclear energy.

12290

CSO: 2400/397

CZECHOSLOVAKIA

SHORTCOMINGS IN BRIGADE WORK METHOD ANALYZED

AU192125 Prague RUDE PRAVO in Czech 16 May 85 p 1

[Editorial: "Well-Considered Preparation of the Brigade Form"]

[Excerpts] Even the relatively brief period of verifying the brigade form of organizing work and remuneration in our enterprises have proved that its merits are indisputable. The original intention to verify experimentally the collective form in certain production organizations was emphatically surpassed. In certain enterprises--for instance, in the Klement Gottwald New Metallurgical Works in Kuncice, in the Technoplast enterprise in Chropyne, in the Chemko enterprise in Strazske, in the Construction Engineering Enterprise in Zilina, and elsewhere--the brigade form went beyond the verification framework because both the economic staff and the party and trade union organizations concentrated their attention on it.

The undoubtedly positive economic and social contribution of the brigade form must not lead us to unfounded illusions which frequently stem from a lack of knowledge; nor must it lead us to a rash and ill-considered expansion of this form at any price. The successful development of this well-proved experience cannot be measured only by the number of newly established collectives working according to this method. After all, this is borne out by the experience of certain hastily set up collectives which later broke apart in the course of the experiment. These are isolated cases, but they do show us very well where insufficient preparation can lead us. Those who are passing only gradually from the experiment to a broader application of the brigade form are acting correctly. It is not a matter of the number of brigades, but of their economic and social contribution.

An individual can find it most difficult to master all the possibilities of efficiently using the modern machinery and equipment, of totally valorizing the material, and of mastering all the contributions made by the development of science and technology. This task is increasingly falling on the work collectives; and it is the brigade form in particular which provides considerable opportunities for applying collectivism in managing production, in utilizing all reserves, and in enhancing the qualifications of individual workers and their responsibility for the common achievement. But this possibility is not asserting itself automatically; it is necessary to establish conditions for it, and to thoroughly prepare for it.

The collective's transition to the brigade form demands, above all, inevitable changes in the economic management of production--for instance, greater precision in operational planning; checking and improving technical-economic norms; elaborating new rules for remuneration; and so forth. The experience of certain enterprises shows that the activities of a collective often require certain technical improvements in production, the modernization of machinery and equipment, the mechanization and automation of the most back-breaking work, or the improvement of hygienic conditions.

The new conditions of the work collective's activities will for the most part require considerable changes in the current conditions of production if the desired results are to be achieved. That is why it would be a mistake to believe that the entire burden of preparations can be successfully borne by the sectors of the labor economy themselves, without the active help of technical, cadre, and rationalization divisions. In places where the entire preparation was shifted to the economic sector alone, without effecting the necessary changes in technology and the organization of work, the brigade form often slipped to merely an improved collective form of remuneration, while its contribution to raising labor productivity and material saving, and to the enforcement of scientific-technical development did not correspond to the estimates.

The successful functioning of collectives which decide to work according to the brigade form must also stimulate the establishment of a far more efficient intra-enterprise economic accountability. Although most enterprises combine the brigade form with economic accountability, there still are considerable problems in applying economic accountability. There are still too few economic-accountability brigades in practice. Research shows that only 10 percent of the collectives are in full accordance with the conditions of brigade economic accountability; the rest are applying merely some of the elements of economic accountability.

In using the brigade form one must also take into account that a collective needs to have a longer prospect of development. The experimental verification affirmed that, in a number of instances the high economic results achieved by collectives were based on the elimination of quickly mobilizable reserves in production; this can hardly be repeated in the future. Thus, if no conditions are created for further development, the collective's activity could very easily evaporate. It is exactly for this reason that a collective must increasingly orient itself toward more long-term tasks, such as raising the utility qualities of products, the enforcement of new technologies, and so forth.

The need for preparing the people well is also proved by the fact that certain places are still grappling with a problem which has been basically resolved, but which still evokes a lot of questions in practice--the issue of who is to be brigade leader, foreman, or first worker. In principle both possibilities are permitted. The fact is that a solution cannot be dictated. Even in the collective organization of work, the responsibility of one leader in no way disappears; on the contrary, his role is enhanced, and both the

foreman and the brigade leader can considerably influence the viability of the new form. On no account can one expect the collective form of the organization of work to replace inefficient foremen. On the contrary, their shortcomings will become even more palpable.

The brigade form of organizing work and remuneration must be regarded as a possibility for achieving better economic and social results. But the measure of success considerably depends on good and well considered preparation.

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18 June 1985

CZECHOSLOVAKIA

BRIEFS

MINISTER MEETS ANGOLAN DELEGATION--Prague, 15 May (CTK)--Czechoslovak Minister of Metallurgy and Heavy Engineering Eduard Saul met here today with alternate member of the Politburo of the MPLA-Party of Labour Henrique de Carvalho Santos, head of the Angolan delegation to the 3rd session of the Czechoslovak-Angolan mixed commission for economic and scientific-technological cooperation. [Text] [Prague CTK in English 1503 GMT 15 May 85 LD]

CSO: 2400/408

GERMAN DEMOCRATIC REPUBLIC

USER VALUE TO DETERMINE FUEL, RAW MATERIAL REFINING LEVELS

East Berlin WIRTSCHAFTSWISSENSCHAFT in German Vol 32 No 10, Oct 84 pp 1557-63

[Article by Ursula Fischer and Rolf Kaestner: "On the Political Economic Problems of Secondary Refining of Raw Materials, Fuels, and Substances"]

[Text] In November 1983 at the Koethen School of Engineering a seminar took place on the topic cited above under the direction of the Institute for Marxism/Leninism. Participants in the event were representatives of the Academy for Social Sciences under the Central Committee of the SED, the Economics Research Institute of the State Planning Commission, the Karl-Marx-University in Leipzig, the Mining Academy of Freiberg, the Carl Schorlemmer Institute of Technology in Dresden, the VEB Leuna Works Combine, the VEB Bitterfeld Chemical Combine, and the technological sections of the Koethen School of Engineering.

The seminar was opened by Professor Dr Roemer, Dean for Social Sciences at the Koethen School of Engineering. He indicated that with this theme, a very significant, key matter in economic strategy, of both theoretical and practical significance, was being raised for discussion. That relates to the inclusion in the political-economic research of the GDR, as well as the application of the results to the educational program in a material-economic oriented school of higher learning. In this connection Roemer pointed to an increased redirection of scientists and engineers to the problems of materials economy, the development and application of energy and material efficient processes, the more effective utilization of domestic raw materials and the energy base, the development of the intrinsic value of these products and much much more.

By the theses presented by the Research Team for Political Economy the discussion was directed to the following crucial points:

- designation as to content of secondary refining and its place in the intensively expanded production;
- certification of the degree of refining and possibilities as well as limits of its numerical presentation;
- definition of the connection of secondary refining with suitable work.

Professor Dr Eberhardt, Leader of the Research Team, in his introductory presentation was occupied with the qualitative characteristics of the processes of secondary refining. He indicated that there are principally two possibilities for their definition as to content.

1. All material and energy economy measures, which lead to an improvement in the relationship of the intrinsic value to the consumption of raw materials and fuels, are the object of a secondary refining. In this case, secondary refining on the one hand, as well as material and energy economy on the other hand - if only the influencing factors at the time are given consideration - are identical. Differences are reduced, then, to the level of individual factors and the intensity of their mutual interactions. The practical management of the problem (conceptions of secondary refining, proof of the degree of purity) corresponds to a great extent to such a determination of the objective.

2. There are in the combination of the economically more effective evaluation of raw materials and fuels components, which specially impress themselves on the strategy of secondary refining and stand out of the total combination as a relatively self-sufficient course of development of the materials and energy economy. Corresponding to this point of view all those processes belong here, during the course of which the degree of reaction of the commodities is increased by the qualitative and the structural transformations (product structure, raw material structure, technological structure, and process structure).

Eberhardt pointed out that this definition of the objective is in contradiction to the practical possibilities of their quantitative determination. Practically operable figures for the degree of refining would always combine both components of the materials economy - the savings as well as the development of the intrinsic value connected with secondary refining. In conclusion, he drew attention to the consequences which are derived from an object definition varying according to content. They concern primarily the measurement of the level of refining; however, they suffice, for example, for differentiated effects on the relationship of retained value to new value of the products.

Dr Kaestner took up the problem of the quantitative concept of the level of refining while he then inserted the degree of refining into the economic system of effectiveness criteria. He started with the fact that the preparation and the realization of decisions on secondary refining are inseparably bound with the evaluation of the refining processes, that is, with the establishment of their level. With the determination of the degree of refining the following factors corresponding to the definition of the objective of the secondary refining would have to be considered:

- According to the target requirements of the economic constitution of socialism the goal of each refining process is established by the intrinsic value, which functions accordingly as the product factor for the refining rating. If - lastly since intrinsic values cannot be compared - the practical investigation of this brings forth diverging solutions, then

it does not change the fact that logically the intrinsic value must always be the reference point. Exactly the precise definition of the product factor for the refining rating requires a stronger orientation of the political economic research toward the intrinsic value and the problems of quantifying the intrinsic value.

- If the refining rating shows the level of raw materials and fuels conversion into intrinsic values of a higher form, then it is with regard to investment determined by the consumption of just these raw materials and fuels. On this basis it seems correct and reliable to define the refining rating as the efficacy rating of the work objectives, as a rating for the conversion of raw materials and fuels in commercial intrinsic values. The factors used in practice also correspond to this definition of the refining rating. With this all measurements of the materials and energy economy are reflected in the refining rating. Specific effects of the qualitative and structural conversion of the intrinsic value capacity are not visible. This fact has as its basis that the measurements of the secondary refining have these effects on the object solely in the rarest cases. Rather the combination of the various directions of the material and energy economy is dominant.

Doctor of Pedagogy in Economics Fischer, in her introduction, raised the matter of application of qualified labor in the processes of secondary refining. She indicated that in the documents of the SED as well as in the pertinent publications the utilization of qualified labor is expounded as a characteristic indication of this process. In the Directive of the 10th Party Congress of the SED on the five year plan for the development of the economy of the GDR in the years 1981 to 1985 it says: "At the same time the secondary refining of fuels, raw materials, and substances turns into a decisive fundamental direction for the development of the economy. It can be derived from this that the growth of the production and of the gross national product in the future cannot be based upon increased consumption of raw materials but upon more highly qualified labor." (Dietz Verlag, Berlin 1981, p 13).

With this the task was set for the characterization of the effects of skilled labor in the processes of secondary refining. Skilled labor - in contrast to unskilled labor or less skilled labor - was characterized by Fischer as labor of a higher potential in the union of qualitative and quantitative precision. Corresponding to the dual character of product producing labor, the qualitative precision expresses itself in the greater potential for creating intrinsic value and the quantitative precision in the greater potential for creating value.

Fischer pointed out that for the components of skilled labor contributing to the value, in the political economic literature the concept of complex labor has found a fixed place, starting with Marx, who then deals almost exclusively with the dual concept of simple-complex labor, when he describes the value creating or conversion process, respectively. Likewise, the

usual concepts would not serve to describe the greater potential for intrinsic value of qualified, tangible labor. With reference to the varying positions covered by the available literature, the point of view was represented by it that the greater potential of qualified labor for creating intrinsic value comes down to greater productivity. Qualified labor exists accordingly in the union of productive and complex labor.

The problem of the development of increased finished value was approached repeatedly in connection with the secondary refining: "Expressed in political-economic terms, secondary refining means, to each kilogram of primary material used a greater finished value can be added by qualified labor" (G. Mittag, "Combines in the Struggle for Carrying Out the Economic Strategy of the 10th Party Congress," EINHEIT No 6, 1981, p 535). In regard to this quest, essentially two aspects were distinguished:

First of all, this quest aims at arranging the relationship of value conversion to finished value in such a manner that according to the product value the portion of the value conversion is reduced while more qualified labor is added proportionally to each raw material unit. It was shown, however, that a shift within the value structure in favor of the final value is realizable only in those cases in which the relationship of intrinsic value to investment of raw materials and fuels is increased by the reduction in consumption.

Secondly, the quest for the development of finished value is achieved through the absolute increased finished value by the application of skilled labor.

The effect of increased development of the finished value in the case of the concurrent value reduction per unit of intrinsic value is only then realizable and so long as the qualified labor operates as work "of exceptional productive strength," does out complex work, which is recognized under the plan as socially necessary work.

Naturally, the continuing discussion also covered the three problems as presented.

Dr Buechner, Academy for Social Sciences under the Central Committee of the SED, took up the objective definition of secondary refining while he drew attention to four aspects of the qualitative characteristics of secondary refining:

1. Although the materials economy lies in the center of the raising of the level of refining, we are nevertheless dealing with a procedure of extremely complex nature, that touches upon the qualitative progress of the development of products, processes, and technology and thereby changes fundamentally the whole reproduction process.

2. The demands take a special position that connects processed of secondary refining to the comprehensive putting into operation of qualified labor. The qualified labor is the starting point for development of the intrinsic value as well as the progressive technological changes and is shown to be the source of the resulting finished value.

3. It seems problematic to uncouple structural questions on the use of raw materials and fuels, such as increased utilization of domestic resources, use of secondary raw materials, and the integration of the use of by-products in the reproduction process, from the ambiguity of secondary refining.

4. Regarding processes of secondary refining new types of qualitative progress in the materials economy are revealed. These have a complex character and are expressed just as well in the reduction of the material and energy consumption as in the intrinsic value. A separation of both components does not seem to be significant.

Also Dr Wetzker, of the Economics Research Institute of the State Planning Commission, characterized the secondary refining as the major trend in the materials economy. In this connection he pointed out that processes for raising the level of refining are, in fact, factors for intensification; indeed between the two there is no identification. From this the problem of the limitation of this direction of the materials economy from the other possibilities of increasing the economic efficacy would result, which must be reflected in the case of the quantitative concept in a specific system of economic factors.

Wetzker recognizes for the theoretical generalization the separation of the degree of refining in the narrow sense (regarding products: qualitative and structural development of intrinsic value) from the broader view (total materials economy); nevertheless, regarding the practical applicability, it consists of a factor that combines the efficiency processes as well as those of the qualitative and structural dynamics of the intrinsic value. He informed us that at the Economics Research Institute of the State Planning Commission the factor for the relationship of the finished product to the total primary fuel and primary material utilization was developed for the definition of the level of processing. This has proven to be applicable and predictive above all on the plane of the whole economy, which Metzker also tested out with comprehensive statistical material. In this manner, for example, by means of this factor economic structural decisions could be made based upon the analysis of alternative product lines as well as targeted export orientation. While the primary use of energy and raw materials (or substances, respectively) is a function of the finished product structure, just as the economy of material and energy consumption, concluded Metzker, the refining or the secondary refining, respectively, must reflect equally the drop in investment as well as the increase in product. Accordingly, a separation of both paths would have to be questioned.

Dr Janakiew, Institute for Light Construction in Dresden, heaped criticism on the generally too narrow substance definition for secondary refining. According to his opinion, refining processes include not only the whole materials economy but to the same extent relate to all resources, in the sense that they characterize tendencies for the conversion of the all round intensive type of socialist reproduction. Based on the materials economy, they would be expressed with economic practicality, in that product growth is to be realized with absolute reduction in materials and fuel consumption. He thereupon constructively developed a structural schematic

of the economic reproduction process, in which economic refining requirements are derived from existing consumption needs. This target quantity, for its part, would be a function of production as well as the export-import picture. With regard to the analysis of the level of refining or its development, the qualitative and quantitative relationships between production, and exports and imports, respectively, have meaning. From this, according to Janakiew, inferences for the formulation of these three processes can be derived, which in a highly developed economy could mean only that crudely refined materials are imported and highly refined materials are exported.

In a difference of opinion with Janakiew's viewpoint, it was pointed out that, on the one hand, the reproductive relationships of the economy including the export-import relationships behaved in more complicated manner by far than in the model developed, and on the other hand, in the case of that type of a broad concept of secondary refining identification between it and the all-round intensification of the reproduction process exists.

Engineer and Doctor of Economics Mann, VEB Bitterfeld Chemical Combine, mentioned the necessity of further theoretical investigations of the object of research in secondary refining in order to also make available to socialistic practice an objective judgement and decisionmaking apparatus for such processes. They must be reflected in concrete, easily manageable industrial economic categories of efficacy, with whose help measures for secondary refining also become effectively more clearly manageable. This practical requirement would appear to be so much greater, since today plans for refining for the period from 1986 to 1990 are already to be worked up. He pointed out that the factor for industrial products production (IAP) was applied to purchased materials as a characteristic of the level of refining and its development in the written directives of the Combine to date. Although in this the energy investment, as well as the self-supply of raw materials, remain disregarded, it allowed for conclusions on the refining progress, in which case the demonstrated differences in development in the level of the different paths of refining nevertheless do not seem to be significant. Mann sees in the practical problems with the changeover of the refining strategy a motivation more for the further constructive cooperation of theory and practice in this area in order to create in common the scientific procedure for the economic evaluation and decision following economic criteria of future processing directions.

Professor Dr Richter, Director of the Franz Mehring Institute of the Karl Marx University in Leipzig, pointed to the subject matter of the political-economic research, that initiates the secondary refining with a new emphasis. Starting with its qualitative and quantitative definition he raised the central questions for the setting up of the scientific procedure which are to be found in the following problem areas:

1. Under the conditions of the socialistic goods production the production process is always the unity of labor and the value basing process. If the secondary refining changes the production process fundamentally, then it must be reflected in adequate changes of the labor as well as the value basing process. The question must be asked where these changes lie,

especially in the case of value structure and which requirements are to be observed in the development of the value factors (e.g., high currency returns, impressive cost reductions, high rate of profit). The value reduction to be achieved per unit of intrinsic value belongs to the characterization of secondary refining. If a technical refining does not lead to this progress in effectiveness, then from an economic view a secondary refining is not needed.

2. A shift of the value structure is tied to processes of secondary refining which increases the new value portion in a double sense. This economic dual function of living, skilled labor can be seen in that on the one hand it transfers less value as concrete labor and on the other hand creates a greater new value as the abstract at the same time. The primary goal must, however, be the intrinsic value in great dimension. This is above all concentrated in processes "of exceptional productive force," with which at the same time a value increase takes place. It should be a top priority task of the concept of socialist economy to increase the proportion of such processes.

3. The value-price relationship implicates the time factor. If highly refined products are brought on the market at an optimal point in time, then price advantages are realizable that bring with them positive redistribution in international trade.

4. Since processes of qualitative and structural conversion proceed as a rule with a great single investment, the main direction of their economizing lies in mass production. The products in the microelectronics field prove this clearly.

5. The complex character of the highly developed reproduction process requires that secondary refining, in fact, be characterized primarily as a raised level of efficacy of the objects of labor; however, it should not be judged as separated from a corresponding technology transformation. The recognition of crucial technological tasks is shown to be a key problem of the conversion of the scientific-technical progress into economic progress. From this, among other things, grow strategic orientations for the concentrated application of the investment capacity of the economy, which is available to only a limited extent. To this extent, it would be an error to separate technological structures and their changes from the secondary refining.

Dip. Eng. in Economics Schulz, Freiberg Mining Academy, took up the problem of the expansion of the new value through the more effective application of qualified labor in the scope of secondary refining. While his opinion conforms with the concept expressed in theses as well as repeatedly in discussion, the answer to the question on the expansion of the new value, caused by the great amount of qualified labor, following his detailed opinion, Schulz made the premise that skilled labor is identical with productive labor. Building on this, he examined the development of the industrial capacity for new value such as that of the new value per product unit repeated in time as well as coexisting in time. For the first case he summarized that expanding productivity of labor under constant labor

ability and intensity does not change the industrial new value, while the total new value per product is reduced. Even with coexistence in time - thus with the averaging of the individual values to the industrial value - the rise in productivity would in fact lead to no expansion of the total new value, but producers realized greater portions of new value (with above-average productive strength) than those working under average conditions.

In his concluding remarks Eberhardt pointed out that the research in secondary refining is of high politico-economic relevance, which the colloquium also put to the test. Building on what was achieved along with practical requirements, the scientific analysis in the future should, above all, follow two target directions:

- a contribution assisting in practically applicable decisions for the socialist industry and;
- higher requirements for the training and education processes - above all in the scientific-technical courses of study - to give the students more confidence in the development trends of modern economic reproduction processes under the aspect of the unity of ideology - politics - economy - technology.

12446

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HUNGARY

ENTERPRISES SELECT WAGE SYSTEMS

Budapest FIGYELO in Hungarian No 17, 25 Apr 85 pp 1, 23

[Article by Dr Marton Petho: "In A Forced Situation: The Choices Faced By Industry"]

[Text] During the past few months, enterprises and cooperatives were feverishly evaluating the possibilities in the application of various forms relevant to the control of earnings. Initially, and in accordance with the decrees, industrial enterprises and cooperatives were classified according to the number of their employees. Two-thirds of them were designated as regulated by earnings level, 4 percent by earnings increase and 30 percent centrally. According to the data furnished by the National Office of Wages and Labor, Allami Ber es Munkaugyi Hivatal (ABMH), 31 percent of the enterprises (with 271,000 employees) rejected the criteria of earnings level, and 15 percent (with ca. 8,000 employees) the criteria of earnings increase; instead they selected other forms of regulation. The percentage of enterprises operating under the form of earnings level regulations decreased--in comparison to previous conceptions--by 20 percent, from 66 to 46 percent, while those working under earnings growth regulations increased by 7 percent, and those centrally controlled by 5 percent (the latter as a result of a specific memorandum). Eight percent of the enterprises chose the form of central regulation with extra strict measures.

Thirty percent of machine industry enterprises, 46 percent of light industry enterprises and 16 percent of enterprises belonging to other branches requested that they be reclassified in order to cease being regulated according to earnings level, which is considered to be the "most progressive" form of regulation. Almost 90 percent of the transfers took place within the machine and light industries. Approximately 37 percent of the enterprises chose, in place of the earnings level form, the growth-based form or the central form with extra strict measures, while 26 percent of the enterprises came under central control.

In order to determine the reasons behind the choices of regulation forms, and in order to reveal the thinking behind these choices, we examined 15 machine and light industry enterprises that chose a growth-based form of regulation and 18 that chose central form with extra strict measures.

Who and What?

Most frequently, reclassification into the growth-based regulatory system was requested by smaller enterprises. In the case of the enterprises that were transferred in the central regulation with extra strict controls, mostly farm machinery, shoe and printing enterprises, their size approximately equals that of the average enterprise in the machine and light industries, while their per capita investment value and their material ratio of production supersede the average by about 8 percent.

Decisions concerning the regulation of earnings were basically influenced by the market position, the fluctuation of production, the enterprise's economic stability, and the state of incentive funds, etc. during the subsequent years. Thus most of the management concerns worked up their plan conceptions for the years 1985-1987 as well. The choice of regulatory methods was also influenced by the differing readiness of the various enterprises to take risks. Thus, for example, the directors were at times motivated--and cautioned--by the shift to a new form of regulation, in that they now came under the supervision of enterprise councils.

According to the plans worked up by the enterprises that selected the regulatory method based on growth, this year's production will approximate, while added values and profits will supersede, the average significantly. The mass of earnings and the proportion of added value is also favorable. However, the proportion of incentive funds to the net capital value and to labor cost is only two-thirds of that in the machine and light industry enterprises, and the average earnings rise at a rate which is 1.5 percent below average.

In the case of enterprises selecting central regulation with extra strict measures--primarily due to limitations presented by the market--the broadening of the production profile proceeded at one-third and the growth of the added value at one-fifth of the average rate. These firms plan on reductions in the hiring of personnel and 3-4 percent increase in average earnings. Due to the small size of added value, the proportion between the mass of earnings and added value is deteriorating. The earnings of these enterprises show almost no growth. Their profitability is two-thirds, and the proportion between their net capital value and their incentive funds is only half of the average.

Since influence of average wages is more direct and forceful than that of the other components of the average earnings, there is a growing tendency within every enterprise to increase the amount of average wages at a rate which is 1-2 percent higher than the average earnings.

Within the machine and light industry enterprises, the commitment rate of the incentive funds is 108 percent; in those enterprises that selected growth-based regulation it is 161 percent; while in those that chose to operate under central control with extra strict measures it is 250 percent. In other words, the choice of other regulatory forms over that based on the level of earnings was primarily made by enterprises which, due to the difficult financial situation, are faced with deficits in their funds. In determining the incentive funds, the developments of previous years (debts servicing and liabilities),

management problems (outstanding debts toward the reserve funds), as well as new tax liabilities (taxes on capital goods) and ongoing investments (capital accumulation) are all taken into consideration.

Debt servicing responsibilities burden the incentive funds to the extent of 38 percent in the case of enterprises that selected regulatory methods based on growth, and 86 percent in the case of those that opted for central controls with extra strict measures. (In the case of the latter, the incentive funds are not even sufficient for servicing the debts.) These enterprises also have sizeable responsibilities, amounting to one-third of the incentive funds, toward the reimbursement of the reserve funds. In both categories of reclassified enterprises, their taxes on capital goods equal 50-60 percent of their incentive funds.

The amount of investment expenditures continuing from previous years is well above the average in the case of enterprises that selected central regulation with extra strict measures. Costs of development use up 36 percent, and taxes on capital accumulation 18 percent of the incentive funds; this is more than twice the amount spent by those firms that are regulated according to their growth, and one and a half to two times the amount expended by all of the observed enterprises.

The consideration for enterprises to choose those methods of regulation that guaranteed minimum taxation and the greatest growth in average earnings were primarily their desire to avoid--or lessen--their tax deficits.

Consequently, regulation based on growth was selected by those enterprises which--even though they are in favorable market positions, they could increase their production and profits significantly, while their mass earnings and their added value could also increase--have sizeable credit liabilities and capital taxes, and thus are short on funds and their tax-paying abilities are weak. The incentive funds, therefore, allow only a moderate growth in average wages and earnings. At some of these enterprises, due to high average wages or the "unfavorable" range of per capita earnings, given a similar increase in the average wages, taxes on earnings could be 20-30 percent higher if the firms fell under the earnings level method of regulation. On the other hand, other firms in this category do not see any guarantee for stability in management during the next 3 years; were they to choose a method of regulation based on earnings level, any possible decline in the achievements of the enterprise would bring about serious shocks.

Cautious Risktaking

Enterprises that opted for central controls with extra strict measures could not implement significant production increases this year, primarily because of market limitations. The added value, in part due to the high proportion of materials, can only rise almost imperceptibly. Since material prices increase, the profits of these enterprises grow only slightly, and their incentive funds are significantly below the average. Numerous firms having shortages in their funds and finding themselves in a difficult financial situation ended up in this regulatory category. On the other hand, many others chose this out of

cautiousness and only temporarily, for example, because of this year's decline in added value. After all, for taxation reasons, some enterprises favor strict central controls, even if the increase in their average earnings does not exceed 5-6 percent.

We focused our attention on the reclassified enterprises, even though a number of firms operating under the regulatory methods of earnings level also took significant risks, and it is possible that during the next few years some of those will also face difficulties. The new system of regulation accentuated the problems and shortcomings of enterprisal management. The decisions of the firms in choosing a form of regulating earnings were decisively influenced by economic factors. Those enterprises that were in an unfavorable economic and financial situation could not face the demands brought on by the "progressive" method based on earnings level, even though this method would significantly increase their maneuvering room. The root of the problems is not in the regulation of earnings, but in management, and consequently the final clarification of the firms' situation could only be implemented in tandem with the complex and consistent implementation of a managing-regulating system that would enforce the demands for efficiency and balance.

TABLE ONE

THE PROPORTION OF RECLASSIFIED INDUSTRIAL ENTERPRISES FORMERLY REGULATED ON THE BASIS OF
EARNINGS LEVEL

| Committed Share of Incentive Funds (Total Funds = 100%) | | | |
|--|--|--------------------|---|
| Enterprises Reclassified Into Categories of: | | | |
| Designation | Machine and Light Industry Total | Earnings Growth | Central Control With Strict Measures |
| Total Commitment of this: | 108 | 161 | 249 |
| Credit Servicing | 28 | 38 | 36 |
| Reimbursement of | | | |
| Reserve Funds | 4 | 9 | 33 |
| Capital Tax | 24 | 62 | 56 |
| Development | 24 | 16 | 36 |
| Capital | | | |
| Accumulation | 8 | 6 | 18 |

TABLE TWO

COMMITMENT RATE OF THE INCENTIVE FUNDS AT RECLASSIFIED ENTERPRISES FORMERLY REGULATED ON THE BASIS OF EARNINGS LEVEL

| Designation | Committed Share of Incentive Funds (Total Funds = 100%) | | Enterprises Reclassified into Categories of: | |
|-----------------------------------|--|--------------------|--|--|
| | Machine and Light Industry Total | Earnings Growth | Central Control With Strict Measures | |
| Total Commitment of this: | 108 | 161 | 249 | |
| Credit Servicing | 28 | 38 | 36 | |
| Reimbursement of Reserve Funds | 4 | 9 | 33 | |
| Capital Tax | 24 | 62 | 56 | |
| Development | 24 | 16 | 36 | |
| Capital Accumulation | 8 | 6 | 18 | |

HUNGARY

STRICTER REGULATION, MORE OPPORTUNITIES FOR MERCHANTS

Budapest NEPSZAVA in Hungarian 2 May 85 p 5

[Article by Zsuzsa Gal: "The Enterprising Opportunities in Commerce are Being Expanded"]

[Excerpts] The new operating formats: the contractual and the income-oriented systems have produced stunning successes in commerce. The profit of contractual businesses is 50-60 percent higher, that of the income-oriented ones is 20-40 percent higher than before. The Council of Ministers has recently modified the regulation which controls their operation and made it possible to introduce still another operating format. The modified regulation became effective as of 1 May 1985.

Manager's Responsibility

According to the modified government regulation no matter who commits a violation or crime among the employees of a business, the manager also bears its consequences. That is, the regulation states that in case of three violations or one criminal offense the economic operating organization can immediately void the contract with the manager.

So far, several hundred contracts have been cancelled because the manager was unable to pay the specified fee and the enterprise was unable to collect its due. In order to prevent such situations the purchase warrant is being introduced which places a limit on irresponsible economic operation. However, even so it can happen that a contracted manager does not pay, takes his leave and leaves behind a large debt. The manager of a business has free control of the income only after he has satisfied his obligation to pay the fee. Until then the income is classified as society's property and he is committing embezzlement if he uses it for his own purposes--that is, for nonbusiness purposes.

Future of Small Businesses

Besides suppressing the negative aspects associated with entrepreneurship further efforts are being made to enhance enterprising desires. The fact alone that the Economic Commission and the Council of Ministers qualified both

the contractual and the income-oriented systems as basically good, is a sign of recognition, appreciation and confidence towards the entrepreneurs. Making it possible to introduce income-oriented operation not only in the stores but also in the production and service operations of commercial enterprises and cooperatives also provides more room for entrepreneurship. In addition in the future stores and hospitality facilities can be operated in the income-oriented format not only by economic operating organizations--enterprise, cooperative--but also by any legal person, that is, for example, by associations or institutions.

The enterprising opportunity will really be broadened by the new format now being introduced which was given the complicated name of "simplified income-oriented operation." (In the interest of simplicity we will hereinafter call this the simplified format.)

As is common knowledge, it is useless for the enterprises and cooperatives to advertise thousands of the small businesses, especially if in addition they are in small communities: there are hardly any applicants to manage them by contract. There aren't because the low volume does not even guarantee a secure livelihood. Those who work alone as contractual managers in such a store are unable to obtain merchandise independently: they have no time to look for it and go pick it up, as they have to stay in the store.

The simplified format helps these problems in such a way that the manager's financial interest and entrepreneurial conduct remain intact. In the simplified format the store manager will be in an employee-relationship with the enterprise or cooperative and will receive wages from it. That is, the security of his livelihood is guaranteed. But he is also interested in successful economic operation because he is entitled to a portion of the business' profit. But only to a portion of it: he shares the profit with the economic operating organization.

This sharing is also characteristic of the income-oriented system, but while there the store is required to provide an itemized accounting to the enterprise, in the simplified format there is no such requirement. In the contract system the enterprise is not interested in the store's volume--but it is interested in it in the simplified system since that is from where the profit, the basis for the sharing is derived. While in general the contracted store manager obtains the merchandise himself, in the simplified format the enterprise saves the running around for the working manager: it provides the merchandise for him. That is, this new format forms a transition between the two earlier ones, the contractual and the income-oriented ones.

According to the opinion of the experts the simplified format will be used in about 15,000-20,000 small stores. From the entrepreneurs' viewpoint its most attractive characteristic is the guaranteed base wage, that is, that it makes entrepreneurship possible within the framework of the employment relationship. This conforms with the general goal according to which inasmuch as possible everyone should obtain more income within his main occupation if he works more efficiently.

Entrepreneur Also Receives Wages

It depends on the agreement between the two parties and on the profit achieved, how much this extra income will be in commerce and in the hospitality industry in the simplified form, and in what ratio the profit will be divided between the economic operating organization and the entrepreneur. If there is no profit, indeed even if the business operates at a loss, in this format the store manager still receives his base wage.

It has also been left up to the enterprises and cooperatives, which ones of their stores--within the framework of the statutes--they will let out on contracts and which ones they will operate in the new, simplified format. Thus in the future the responsibility of the commercial enterprises and cooperatives will increase: they will have to decide not only this but also--as we mentioned--what professional requirements they will demand from the entrepreneur when the contract is negotiated. The responsibility of the contractual business managers is also greater, inasmuch as in the future they can also lose themselves for the improper actions of their subordinate employees: they can lose the right to operate the business.

With the cutting off of the wild shoots, with expanding the entrepreneurial formats an interest system is in the process of developing in commerce and in the hospitality industry which is practically without any precedent and example. It provides the incentives for successful economic operation in such a way that in the meanwhile it also endeavors to protect the interests of the consumer and of society from the extortionist intentions.

8584

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HUNGARY

CRISIS SEEN IN LIVESTOCK REDUCTIONS BY YEAR END

Budapest MAGYARORSZAG in Hungarian 19 May 85 p 24

[Article by Nandor Keresztenyi: "Animal Husbandry; Clouds in the Sky; TSZ Animal Stocks Decrease; Depressed Market, Little Income"]

[Text] Meat and milk--lots of question marks! Of course, seeing the customary ample stocks of the shops, we see the commercial situation as most reassuring, even for the tourist season, so surely this introductory sentence can be questioned.... But, one who sat through the May meeting of the presidium of the National Council of Producer Cooperatives may well start to wonder about the future.

Let us give a few figures to begin with. In the first quarter of 1985 the stock of sows declined by 55,000 compared to the same period in 1984, the stock of cows on producer cooperatives decreased by 17,000 and those kept on household plots decreased by 4,000. As for ewes, their number decreased by 116,000 in the same period. So the prognosis which follows from this can be calculated already--by the end of the year there will be 700,000 to 800,000 fewer slaughter hogs, the supply of milk will decline by 70 million liters and the number of slaughter sheep will be less by 7,000 compared to the end of 1984.

Good Old Days....

What happened, one might ask, for the past 20 years have reflected an almost spectacular upswing, whether we are talking about domestic supply or the dynamics of export. In these two decades the production of common farm slaughter animals has increased 2.4 times on the TSZ's [producer cooperatives] which have the determining role in agriculture--thus not counting the state farms, which have done their utmost in the matter of animal husbandry. TSZ milk production has increased threefold, egg production ninefold. And the increase in animal products coming from the household plots was substantial as well.

And yet, according to a document released at the session of the TOT [National Council of Producer Cooperatives] presidium: "Animal husbandry is a hard, complicated area for cooperative farming; the results and efficiency of production are lower, compared to the leading results in the world, than in

crop production and vary greatly from TSZ to TSZ and from branch to branch.... Profitability and the generation of developmental resources have developed unfavorably in the majority of the TSZ's so that to a large extent the material assets for development had to be regrouped from other branches."

One is to understand by "other branches" primarily the income of the so-called auxiliary operations--really not at all secondary--a part of which the TSZ's could siphon off to build and maintain various animal keeping sites. And the industrial, primarily construction industry, activity is on a "descending path"--in the producer cooperatives of Pest County alone the number working here has decreased by 10,000 people. The reasons are many--the cutback on investments and the flourishing of the factory GMK [economic work association] system have both had an effect on this type of work by the TSZ's.

But the reasons should not be sought merely in the external conditions due to low profitability--the productivity of live work in animal husbandry is low by international standards. For example, in the specialized dairy sites of the TSZ's the number of cows per worker is 11, it is 12 on the state farms, while it is 50-60 on Western European farms and even more in the United States. Fodder management is at a low level, even worse after the past two dry years, not even to mention that this further increased the differences already existing among the farms. Corn, representing 40 billion forints of the national product, was planted on approximately 100,000 fewer hectares in the spring than desired, simply because of flood problems, although demand from elsewhere might increase--and this leads back to animal husbandry. And the quality of fodder additives is not adequate either--in the first 2 months of 1985, for example, 95 percent of the complex pre-mixes did not meet the standards!

The greatly increasing problems include the high ratio of deaths: 5.4 percent of the newborn calves, 9.6 percent of the piglets, 7.4 percent of the lambs and 7.7 percent of the baby chicks die of various diseases on the TSZ's. In many places, for this reason, they are giving up keeping this or that sort of animal although--as the TOT document emphasizes--"ending production is not a path which can be followed over the longer run...."

Domestic Errors

The cooperatives, of course, can do much to improve economy. So what do they need? In northern Nograd County, in an idyllic region but amidst harsh natural conditions, the Ferenc Rakoczi II Producer Cooperative in Szecseny (the national assembly encamped on the local Borjupast in Szecseny elected Rakoczi to be ruling prince in September 1705) raises cattle for both meat and dairy purposes. Its chairman, Dr Csaba Hutter was awarded the State Prize this year and said--among other things--at the TOT presidium session that "the price should recognize the costs, with an acceptable profit!" He recommended creating an interventionary fund, because he did not see any possibility that they could ask for money--as has happened earlier--from the Animal Trade and Meat Industry Trust, because no profit is being generated there either! "Now, after 10-15 years and a great developmental career, a number of TSZ's are liquidating their stocks, so in 1985 we are facing a radical reduction in numbers," the somber forecast of the chairman stated, and no one denied it.

In addition, the debate was characterized by a self-critical tone. Even Csaba Hutter noted that the trouble was with work discipline--not with expertise!--while Dr Pal Tresser, chairman of a TSZ in Dunavarsany, outlined how he succeeded in eliminating a deficit of 8-10 million, although even he could not report a profit. Only Ferenc Gubicza, chairman of the Csopaktaja Producer Cooperative in Balatonfured, could say that cattle were profitable for them!

One can see from this how great the differences are among our producer cooperatives. In his speech to the 13th party congress Istvan Szabo, chairman of the TOT, divided the TSZ's into three groups: The income production of the upper third is fairly stable; the middle third are "struggling, without commotion but without spectacular success, to get ahead or to keep from slipping into the lower third", while 300-350 farms have gotten into a hard situation which they cannot get out of on their own. Speaking of animal husbandry, however, he observed: "Its dynamic growth should not make us forget that so far it has shown few qualitative elements, that its efficiency is still weak."

At the opening of the presidium debate Janos Perczei, main department head of the TOT, said that "hogs are in an especially bad situation." Ferenc Kosa, director of the joint enterprise called KA-HYB (Kaposvar Hybrid Hog), objected that slaughterhouses have not been built where the most hogs are; so now the live animals are shipped from Bacska and Csongrad to Kaposvar, which in itself is a great waste of money. Mihaly Nagy, a TSZ chairman in Szil, offered the opinion that the slaughterhouses are operating at 30-40 percent capacity, and in regard to differences in the level of keeping and fattening he mentioned, without naming them, the example of two neighboring cooperatives; in one the hogs produced a profit of 7 million forints while in the other they "produced" a loss of the same magnitude at time of sale.

There is not sufficient interest in hogs on the foreign market, or if there is, the offered price is depressed, as can be said of poultry as well, as could be said for years. It appears from a world market survey by the professional Danish paper TOLVMANDSBLADET that in the past 4 years "a continual growth in production has been characteristic of the world market for meat in Asia, the Soviet Union and Western Europe. In this period China, the largest meat producer in the world, increased its pork production by 1.6 million tons,... the Soviet Union by 1 million tons,...the European Community by 400,000 tons," while hog raising stagnated or decreased in the United States, which can be attributed "primarily to the poor profitability." And although the consumer prices fell, America's appetite for pork also decreased--only 29 kilograms per capita instead of the 33.5 kilograms in 1980.

"What Is the Law For?"

It is true that hogs and poultry are animals which can be raised relatively quickly, while cattle have been called the "heavy industry" of animal husbandry, which is to say that cows can be eliminated quickly by slaughtering them but it takes long years of effort to replace the stock. According to the statistics of the Danish paper cited we are at the peak of the past 5 years in 1985. If we put all the cattle and hog meat production of the world together the latter comes to 58,800,000 tons while the former--including veal and

buffalo meat--comes to 48,700,000 tons. Under such circumstances the depressed world market prices are understandable, and one is forced to ask: What sort of law is it--a law mentioned with pride not rarely in recent years at some professional conferences--that prescribes that "we have as many hogs as we have citizens"?

A "crisis situation"--a concept heard a number of times at the supreme forum of TSZ chairmen--almost exists, and as Dr Imre Kovacs, deputy chief of the economic policy department of the MSZMP Central Committee, said: "Attention will be paid to the problems which have arisen when the regulators for next year are worked out, which has already been started. It is estimated that a 2-percent increase in animal husbandry will be needed next year, but we must make sure that the international market does not recognize our costs. And the animal census data warn that we--the state and the TSZ's in harmony--cannot wait until January either, for there is some anxiety that the good position our agriculture has won in animal husbandry may be shaking in its foundations."

8984

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ROMANIA

ACTIVITY OF JOINT COMPANY WITH FRG REVIEWED

Bucharest REVISTA ECONOMICA in Romanian No 8, 22 Feb 85 pp 12-13

[Article by Erich Leitner, commercial director of "Resita-Renk" S.A.: "A Decade of Fruitful Experience in the Development of Industrial Cooperation"]

[Text] Putting to use the favorable framework of developing industrial cooperation achieved by way of agreements concerning technical-scientific cooperation, the trade of goods and the expansion of economic contracts that were concluded between the Socialist Republic of Romania and the FRG at the end of the 1960's, as well as by way of all Romanian legislation concerning international economic cooperation and the creation of joint companies, in June 1973 the group of contracts was finalized concerning the creation of the joint company "Resita-Renk S.A." - the Reduction Gear Plant of Romania. The signing of the documents was carried out on 28 June 1973 at Oberhausen, FRG, in the presence of the president of Romania, Nicolae Ceausescu.

The partners within the framework of this activity of economic cooperation are: with 49 percent of the shares - the Gutehoffnungshutte Concern, through the firm Zahnradfabrik Renk A.G., Augsburg, FRG, which has a good history of cooperation with Romanian foreign trade enterprises over the recent decades; on the Romanian side there are the Resita Machine Construction Enterprise - with 40 percent of the shares - and the Bucharest "UZINEXPORT Foreign Trade Enterprise with 11 percent, an enterprise specializing in the operation of export-import activities in complex facilities for the metallurgical industry, the food industry, the cement industry, chemicals and energy.

The Renk Company was established in 1873 in Augsburg and in 1923, it became part of the G.H.H. Concern, one of the largest groups of West European machine builders. Within the production program of the German company Zahnradfabrik Renk A.G., we find a broad variety of reduction gears for thermal power plants, steel mills, rolling mills, the cement industry, the chemical industry, plastics, ship construction and other vehicles.

The Resita Machine Construction Enterprise, established in 1777, also has a long history in this field, actually being profiled for fast, semi-fast and slow diesel engines, hydraulic turbines, compressors, metallurgical equipment and equipment for the chemical industry. The technical potential of the enterprise, as well as the existence of highly qualified personnel in the field of machine construction, were

determining factors in selecting Resita as the location of this company. The company itself, with DM 20 million in social capital, started its activities in 1976 when the first reduction gears were delivered, with the purpose of its activity being the production and sales of gears, reduction gears, couplings and other types of drives.

The Key to Success - Mutual Advantage

In the course of the trade agreements from the beginning of the 1970's between the Resita Machine Construction Enterprise and the G.H.H. Concern regarding the licensed production of semi-fast diesel motors, the idea appeared of developing in Romania the production of those reduction gears needed to equip ships, as well as those for general use. For the Renk Company it was clear that the Romanian partner would be developing its own powerful industry for the purpose of eliminating imports, which would also have led to its loss of an important market. By participating in the joint "R.R.R - S.A." company, the German partner would maintain a market for the export of technologies as well as products that were not yet ready for production. At the same time, the Renk Company specialized its production program for a certain segment of the market, with a series of production types being gradually transferred to the Romanian enterprise. It is true that the joint company is now in a position to design its own new products and, as a result, an addendum has been signed to the licensing contract through which the company is given the right to also produce other initially unforeseen products so that Romania no longer imports reduction gears, except in special cases. As a result, the current production program of the company includes both products produced under license to Renk - for which it makes payments - and products turned out on the basis of its own designs or those of customers.

At the same time, by virtue of its location, the Romanian enterprise opens new marketing potential in this part of the European market, a hypothesis later confirmed in a practical sense by the export contracts directly concluded by the company.

For the Romanian partners, the objective of producing reduction gears of a high technical level has been proven possible to achieve in record time by way of technology transfer, especially the transfer of production know-how from the Renk Company. The R.R.R Company today constitutes a practical confirmation of the idea that within the framework of the organization system specific to joint companies the transfer of technology can be achieved much more quickly than in the traditional case of purchasing licenses. In the production of high-quality items an important contribution was made by the cooperation with the specialized personnel from Renk, both in production and in the quality control sector, so that in just a short time Romanian products were at the level of the highest international standards.

Production Diversification on the Basis of Our Own Designs

In the nearly 10 years that have passed since the start of production, the company has started production on over 160 different sizes and types of items

from a production point of view, so that currently the design and technology sectors of the company are capable of designing its own reduction gears and the production sector is capable of making them. The program for ship reduction gears includes: inversions for high-speed motors and reduction gears for high-speed and semi-fast motors. There has been production of reduction gear rated at 10,000 kw. Other customers for stationary reduction gears - with cylindrical or conical gearing or with one or more stages - are in the steel and metallurgical industries, the lignite mining industry, cement production, the chemical industry and the lift equipment industry. The main user of the products of the R.R.R Company currently is the Romanian economy.

Adequate Supply and Organization for the Production of Certain High Performance Products

The group of contracts which regulates the operation of the company is composed of the company contract, the statutes and the licensing contract. In the company contract are the regulations regarding the name of the company, the headquarters, the legal status, the social capital, the shares of the shareholders, the bank accounts, the organs of the company and other formal requirements. Similarly, the company contract stipulates the autonomy of the company in the supply and sales of its products. In differing from the company contract, the company statutes contain more details referring to organization, operation, authority and means of reaching decisions by agreements within the organs of the company. The licensing contract covers the production under license of a portion of the Renk production program (ship and stationary reduction gears), the rights for sales and payment for the license. The capacity of the factory was designed for an annual level of approximately DM50 million, with staffing on two or three shifts. This level is to be attained by the middle of the 1980's. Currently, the level of production is approximately DM35 million per year. The factory was equipped with the most modern machinery and equipment needed to produce good quality reduction gears of the most diverse type and size. On the geared machinery they can process teathed gears up to 4,000 mm in diameter and segmented teeth gears up to 14,000 mm. Since production is generally focused on one-off and low volume production runs in a large variety of dimensions, the high performance equipment on-hand was designed as universally as possible.

In order to carry out the production of casings a specialized welding section was set up. At the same time, they took into account the trend of requesting compact reduction gears by building a thermal treatment sector having data process control. The enterprise is equipped with a modern computer capable of ensuring the operation of an integrated data process system. It should especially be mentioned that there is the use of this computer in design and production. The joint company covers an area of 22,00 square meters, with possibilities for expansion. Of this area, there are buildings on 10,00 sm, with this being divided into the main production hall having three open areas (6,000 sm), the annex hall (thermal treatment and welding - 2,000 sm), the utility hall, the administrative offices and so forth (2,000 sm). The financing of construction and equipping was carried out via the social capital. The necessary supplemental financial resources were obtained from the European hard currency market. With regards to the supply

of materials, the company is primarily supplied autonomously from within the country or from abroad on the basis of competition. It is a normal trend, however, for the company to buy as much as possible from the local market so that the portion of imported materials compared to the total amount need is reduced.

High Labor Productivity Ensures Competitiveness on the Market

If at the beginning the number of employed Germans averaged ten, currently at the R.R.R. there are five (the commercial director, as well as personnel in the production preparation department, quality control, supply-sales and production scheduling).

In Resita, the number of workers in just the two combines - the steel combine and the machine construction enterprise - is nearly 30,000. As a result, there is a substantial potential for a high quality work force. In the field of administration and management, the training and work of the personnel are very good. In 1984, the total number of these personnel in the company reached on the average 400.

A large number of Romanian personnel - in production and in technical areas - were given specialized training both at Renk Augsburg and at the R.R.R. by specialized personnel from Renk. The high labor productivity and the personnel's wages, paid according to production, are interdependent factors. Salaries are paid according to the legal scale in Romania. It is possible, similarly, to have incentives for the personnel. As a result, the labor productivity is remarkable. Modern management methods require a framework of coordination and guidance. This framework was created and is directed towards the requirements of a planned economy. Under these conditions, modern management methods were put into practice.

The licensing contract calls for the company to sell its products in Romania and in other European socialist countries through its own sales office. Products that are installed in complex installations can be exported to all the countries of the world. The Renk licensor is required to sell a portion of production - through its own sales office - in Western countries, also naturally taking care of the related service work.

To date, there have been deliveries totalling approximately 3,300 reduction gears weighing between 260 and 70,000 kg to countries such as: Yugoslavia, Pakistan, Egypt, Italy, India, Poland, the FRG, Turkey, Czechoslovakia, Iran, Iraq and so forth - and certainly in Romania. Thus, beginning in 1976, the ship construction industry in Romania exclusively has used reduction gears produced at the R.R.R., with the total value of reduction gears delivered to date by this company reaching DM235 million.

The technological potential of the plant, in addition to the experience accumulated in the 10 years by the highly qualified personnel, allows the company - on the basis of the good cooperation of the suppliers in the country - to come forward

on the international market as a competitor that must be taken seriously. The company takes its own initiatives and uses the usual marketing methods in the investment goods industry. In this context, we can especially note its participation at fairs and expositions, as well as the organization of symposia. The company is making profits and the dividends are being divided among shareholders.

"Resita-Renk" can thus serve as a model of fruitful Romanian-West German cooperation.

8724

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ROMANIA

FAILURE TO DELIVER PARTS HAMPERS MINING ACTIVITY

Bucharest SCINTEIA in Romanian 25 Apr 85 pp 1,3

[Article by Ion Teodor: "Great and Consistent Efforts to Increase Coal Production!"]

[Text] The efforts that have been made and are further made to increase coal production are determined by clear economic considerations. For example, the regular and complete implementation of the production plan for coal used to produce energy directly influences the operation of the country's major thermopower stations. Any failure in the supply of coal to the power stations brings about difficulties in the production of electrical power, as was the case in the past winter. At the same time, coal is also required to produce coking coal and semi-coke, which are resources used as raw material or fuel in the metal and chemical industries and in other sectors.

This clearly underlines the particular importance of the measures established by the party leadership--at the recommendation and under the direct supervision of Comrade Nicolae Ceausescu--to achieve the coal production envisaged in the 1985 plan. The program examined and adopted along this line by the Political Executive Committee of the RCP Central Committee envisages, among other things, rescheduling the coal production for this year by reducing it below the plan provisions in the cold season, i.e., in the months of January, February, and December, and increasing it accordingly during the rest of the year to make up for the difference, especially in the second and third quarters of the year. At the same time, the production rescheduling in the extractive industry means that the Ministry of Mines and the managements of mining combines and units must resolutely act to increase the degree of utilization of the existing facilities and equipment, to perform timely repairs, and to continuously improve exploitation technologies, particularly in the brown coal quarries of the Oltenia basin, with a view to completely fulfilling the investment plan, ensuring material-technical and manpower resources and strengthening order and discipline, so that production activities in this branch may proceed smoothly throughout the year.

From this viewpoint, the month of April constitutes a time of maximum concentration of human and material forces in mining units. This statement is based on several arguments; we will cite two of them. Firstly, according to the program adopted, as of the second quarter coal production must be considerably increased in comparison to both the previous months and the initial plan. Secondly, in the same period, conditions must be prepared for the even higher production increases envisaged for the third quarter and for the following months.

Production Has Increased, But That Is Only the Beginning of the Recovery Expected

Naturally, the fact that a certain increase has been recorded in coal production recently is undoubtedly positive. The average daily coal output was 119,000 tons in March, as compared to 100,000 tons in February and 93,000 tons in January. However, the production increases achieved to date, including April, can only be described as a beginning of the recovery that we expect and that is absolutely necessary. One of the reasons is that, although production increased from one month to the next, the plan provisions for the first quarter of the year were still not completely fulfilled, and thus the miners owe considerable amounts of coal to the national economy. More precisely, the greatest shortfalls were recorded at the Rovinari and Motru mining combines, where activities, particularly in the brown coal quarries, fall short of the existing potential. The reasons?

As was stated at the 12 April meeting of the Political Executive Committee of the RCP Central Committee, the coal mining industry continues to present serious deficiencies, especially concerning the utilization of the existing capacities and of the manpower, which make the results obtained fall short of the conditions existing in this sector and of the requirements of the national economy. Indeed, in recent years mining units were allocated considerable investment funds; their material-technical basis was greatly developed and modernized, and special assistance was mobilized from the other counties. Nevertheless, production increases failed to justify the efforts made.

The Motru and Rovinari mining combines should have years ago begun achieving a steady average daily output of over 100,000 tons of lignite. That is when new production capacities were commissioned and when relatively older ones (relative because the Gorj coal basin itself has not been on the map that long) were modernized. Nevertheless, in April this year the average daily output of the two combines put together was only 75,000-80,000 tons lignite.

A Better Utilization of Existing Installations and Equipment

The level of the production achieved indicates that particularly in the lignite quarries, there are still deficiencies in production organization and in the training and utilization of the manpower, which is the cause for the inefficient exploitation of equipment and installations. Last year, for example, rotor excavators were utilized only 53.9 percent. In the first quarter of this year—due, indeed, to unfavorable natural conditions—the index of utilization of quarry equipment was even lower.

In view of the conditions in which activities proceeded in the first quarter of the year, one of the main means of increasing coal production is thus to once again begin operating quarry equipment and to enhance their degree of utilization. It is true that a large volume of checking and repair work was carried out in March on 55 technological lines totaling 216 high-capacity conveyors. At the same time, conveyors were aligned and access paths were cut along the technological lines. Following the work done in the lignite quarries of the Oltenia basin, the degree of extensive utilization of excavation-conveyance technological lines equipped with rotor excavators increased in March to 52.85 percent, as compared to 37.87 percent in February and 28 percent in January.

Nevertheless, the provisions of the program adopted by the party leadership have not been completely implemented. According to data furnished by the Ministry of Mines, considerable work still remains to be carried out in lignite quarries to replace worn out rubber mats, roller pulleys on conveyors, belt drums, and drive blocks. For that reason, particularly the Motru mining combine and the Horezu mining enterprise still have a low index of equipment utilization. However, as is known, much of the production increase planned for this year is to be obtained by increasing the index of utilization of rotor excavators to 65 percent. The fulfillment of this task will to a great extent decide the level of coal production in 1985.

More Efficient Support from Equipment Suppliers

The establishment and scheduling of the production plan was, of course, also based on the new capacities that are to be commissioned this year in mining units. Will the new capacities help obtain the quantities of coal envisaged? Instead of any commentary, let us consider the facts.

In the first quarter, the coal mining sector fulfilled 90.4 percent of the plan per overall investments, while the construction-assembly plan was exceeded by 3.7 percent. The work situation clearly differs from one coal basin to the other and from one unit to the other. For example, in March, two new production capacities were commissioned in the Oltenia basin--about 6 months ahead of the program provisions--with a yearly total of 200,000 tons of lignite. On the other hand, in the Jiu Valley, the mining enterprises Uricani and Livezeni and the Mehedinți mining enterprise are behind with their new capacities, which should have been already producing. And that despite the fact that the dates for the commissioning of various installations on which work continues, were rescheduled last year. What are the reasons for the delay in investment projects?

There are undoubtedly deficiencies in the organization of work on the assembly of excavators, dumping machines, and high-capacity conveyors. However, the delays are sometimes caused mainly by delayed delivery of equipment and subassemblies. In the first quarter of this year, industrial units delivered only 68.7 percent of the subassemblies required to assemble equipment for technological lines in lignite quarries. Many difficulties are also caused by the fact that parts and subassemblies are not delivered in the order of assembly. However surprising this may seem, in the first quarter of the year, while mining units failed to receive 2,582 tons of planned subassemblies, industrial enterprises exceeded their production schedules by 7,160 tons of parts and subassemblies. The consequences? On the one hand, due to delays in the delivery of parts, various stockpiled subassemblies cannot be assembled. On the other hand, material stockpiles are increased by the early delivery of parts that cannot yet be used.

We will not now dwell on storing conditions for the thousands of tons of parts delivered ahead of schedule, which will be discussed in a future article. However, we must state that this situation points to serious deficiencies in the organization and planning of production in some of the supplier enterprises. Almost every time explanations are requested for delays in the manufacture of certain parts and subassemblies, the blame is put on lack of raw and other materials. At the same time, however, hundreds and thousands of tons of parts

that cannot be assembled are manufactured ahead of schedule and stockpiled, thus freezing large quantities of steel and various other materials. This procedure contradicts every rule of economic efficiency.

The suppliers involved sometimes claim: "We manufacture the parts for which we have the materials." Except that often it so happens that the materials required for the parts stipulated in schedules are used for subassemblies produced ahead of schedule. Thus, no matter from what angle the situation is considered, violation of plan discipline causes disruptions in material-technical supplies, and not the other way round. The most efficient support that equipment suppliers can provide for the miners is to manufacture and deliver parts in the order of assembly and in accordance to the schedules established.

The program adopted by the party leadership envisages that daily average outputs of coal should come to 170,000-194,000 tons in the second quarter, and to 210,000-222,000 tons in the third quarter. These are particularly mobilizing and responsible tasks that can be fulfilled only through well coordinated efforts by the miners and equipment assemblers, machine builders and metal workers, and the working people in practically all the sectors of activity, because coal is vital for developing the country's resources of energy and raw materials, and thus for the activities in the other branches of the national economy.

12782
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YUGOSLAVIA

EFFORTS TO IMPROVE RAIL TRANSPORTATION SYSTEM NOTED

Belgrade DUGA in Serbo-Croatian No 288, 10 Mar 85 pp 16-17

[Article by Milomir Maric: "A Train on Eight Tracks"]

[Text] We have already become accustomed to the fact that every call for unity somewhere arouses resistance and distrust, and is virtually considered a direct attack on the AVNOJ [Antifascist Council for the National Liberation of Yugoslavia] principles and the country's federal system. The latest attempt to integrate Yugoslav railroads has not been spared this either.

The sweetest thing is when someone mocks himself.

The newspaper of Yugoslavia's railroad workers, ZELEZNICKE NOVINE, published on its front page a cartoon about young people to whom the registrar at a wedding is saying, "And keep in mind that marriage is a serious and firm community, not like the Community of Yugoslav Railroads!"

The cartoon illustrates the report on an unsuccessful 9-hour meeting of the directors of the railroad transportation organizations. Essentially they did not manage to agree on anything, but the agenda included coordination of the Proposal for the self-management transformation of the railroads in accordance with the Long-Term Economic Stabilization Program before the Assembly of the ZJZ [Community of Yugoslav Railroads].

Six railroad transportation organizations took a position in favor of a unified system and policy and a uniform level of prices for railroad transportation services, as provided in the Proposal, while the Ljubljana ZG took the position that the ZTOs [railroad transportation organizations] should establish prices independently, together with associated labor, and that the prices agreed upon in that way should be integrated into uniform rates for the Yugoslav Railroads. The Zagreb ZTP agreed with this position.

The Ljubljana ZG feels that a uniform level of prices would put the railroad transportation organizations in unequal positions, since they have different expenses per unit of production, and in view of the position on equalizing the conditions for doing business, this would lead to a transfer of income regardless of the results of work, and thus the adoption of a uniform level of prices would eliminate the influence of the users of railroad services on the formation of these prices.

Many words were said at the meeting on the Ljubljana ZG's amendment on dropping from the text of the Proposal the sentence on the need to provide for minimal criteria for determining compensation, since the determination of compensation is under the jurisdiction of the SIzs [self-managing interest communities] for railroad transportation and of the sociopolitical communities in which the ZTOs have their headquarters. The Ljubljana ZG does not agree with the flat view that the present state of the self-managing and technological degree of organization of the Yugoslav Railroads is unsatisfactory and that for this reason in principle there has been a violation of the principles concerning the technological unity of the railroads; on the contrary, it thinks that this view only applies to the parts of the network in which these weakness have been established. That organization also challenged the right of the ZJZ to represent Yugoslav railroads abroad, as a unified system, except when it has precise authorization for this from the individual ZTOs, since they are the only ones engaging in business operations.

The Chairman of the Business Council of the ZJZ, Zoran Nastic, said after all this that he was still very optimistic, since the integration of Yugoslav railroads is not any kind of transitional task in everyday politics, and even less an independent initiative to create a new power center in Belgrade, but rather simply a necessity that will certainly be accomplished sooner or later. Naturally, no one is even thinking that the ZJZ should go back to the former General Dictatorate and a system in which everyone invested as much as he could and took out as much as he needed, although one definitely does have to think about how much logic there is in organizing the ZTOs literally by republics and provinces, instead of by railroad lines.

The Political Nature is Dormant

Among the basic determinations of the Long-Term Economic Stabilization Program is undoubtedly the statement that the large systems (the electrical industry, the railroads, telecommunications, and the water industry) are suffering from ineffectiveness, inefficiency, and fragmentation. Under the guise of decentralization and self-management, solutions have been imposed which are contrary to technological progress and the interests of associated labor. It is intolerable to have modern and expensive technology introduced in the large systems, and to have the efficiency of operation not improve, but become worse (the average speed of transportation). In order to get out of this situation, it is necessary to bring about an association of labor based on the principle of a technological unit, instead of the formation of organizations of associated labor based exclusively upon the territorial principle within the limits of opstinas,

autonomous provinces, and republics. Regional interests, which are undeniable in the large systems, are ensured by agreement among organizations of associated labor and consultation among the sociopolitical communities.

The Yugoslav Railroads, which are composed of close to 10,000 kilometers of railroad lines and whose basic assets amount to a tenth of the total assets of the entire Yugoslav economy, have gone a long way in their disintegration. There have been 356 basic organizations of associated labor formed in 8 completely independent railroad transportation organizations, whose mutual relations are regulated on the basis of the principle of consensus. As a rule not one joint initiative gets through, and thus not even the guidelines on hygiene for the cars was accepted, since one ZTO was opposed.

Although the railroad workers had planned to complete the expansion of their system by the end of 1982, even today little has been done. The joint and thoroughly prepared Proposal for the self-management transformation of the railroads in accordance with the Long-Term Economic Stabilization Program, which states that the present organization of the Yugoslav Railroads has arisen through inconsistent application of the ZUR [Law on Associated Labor], has not been coordinated, nor is there any way to overcome the differences in views on several key issues.

There is no dispute about technological progress; the matter is profoundly political in nature. This is after all openly stated by Prof. France Bucar. He rejects all initiatives for changing the present situation as "anti-AVNOJ and anti-constitutional. We must finally give up on all reorganizations, centralizations, and unifications, and reconcile ourselves to the unique system of our state. When Europe can function successfully divided into separate states, perhaps Yugoslavia can too," Bucar concludes. "The European railroads are at the same time an economic system in which there is interdependence among its parts, the railroads of the individual states. Their relations can be settled quite easily on the basis of mutual agreements and no central administration is needed for this. Instead of this being an example for us, we are turning to obsolete forms of bureaucratic-hierarchical organization."

On top of everything, Bucar very originally asserts that the Yugoslav railroads should not be touched, since even as they are they are equivalent to Europe's in efficiency(?!).

Such blind patriotism probably rejects as malicious an entire anthology of popular jokes about the punctuality of Yugoslav railroads--not to mention the fact the Europe long ago gave up on us and is systematically bypassing us. Two railroad routes are currently open around us. One goes through Italy, Brindisi and Pokraca, toward Greece, and the other goes through the CEMA countries. Although it is considerably longer, it ensures more rapid transportation of goods at lower costs.

Again, we have already become accustomed to having every call for unity in given circles in Yugoslavia arouse rejection and distrust. It is paradoxical that in the nation of Yugoslavia the greatest fear is of what is Yugoslav, at least in name. Consequently, even an announcement about clearing up the situation in the railroads is viewed from the start as a violation of internal state borders and of the country's federal system.

An End to "Occasional" Talks

Today we are moving cars around the railroad lines like pawns around a chessboard, counting over the black ones and white ones in each half, with these pawns of ours being colored in 8 different colors. Although joint work has a 70 percent share in total earnings, our railroad organizations behave as if it did not even exist. Other people's locomotives are met like invasions by foreign troops, and thus it is not surprising that every day locomotives travel empty for 900 kilometers on our railroad lines. In Dobova, Vinkovci, and Kraljevo, it is quite natural to wait several hours to change locomotives. The better cars and locomotives are kept for oneself, and the super-comfortable cars travel on local lines, while worn-out ones, without heating and with broken doors and windows, are sent on the international lines. While a speed of 160 km/hr is the standard for European railroads, there are parts of our main routes where the maximum speed permitted is 50 km/hr. It often happens that a freight train that according to the schedule takes 9 hours to go from Belgrade to Zagreb actually takes three times as long.

There is still a strong faction in the Yugoslav railroads, however, which feels that a unified schedule is enough for their unity and that trains only collide accidentally. In fact, for two whole decades the railroads have been discussed on "occasionally" -- after major railroad disasters, when so-called objective reasons were investigated as well as the subjective ones.

From 1947 to 1965, the railroads were almost the only transporter. They diminished their transportation capacities due to low shipping charges. By transferring income, they financed the development of other branches of transportation, and they had uneconomical amortization. By 1955, they paid 300 billion dinars from this amortization into the general investment fund for building the economy. Afterwards, cheap oil virtually drove the railroads onto a side track. What had to happen did happen. Less transportation resulted in a decline in economic strength, delays in modernization, and a continuing decline in the quality of services. That is the reason now for the ridiculously low commercial vehicle speeds, the almost crude and offensive accommodations, enormous delays, and the unsatisfactory travel safety.

It was only after the drastic growth of prices for energy fuels that people began to think about the railroads again. The Long-Term Economic Stabilization Program is now demanding that the railroads become the "backbone" of the continental transportation system in Yugoslavia, and stating that we cannot allow a continuation of the previous expansion of highway transportation. It must be slowed, since it directly contributes to the deterioration of the energy situation in the country.

The Matter Is Very Serious

At a regular conference of railroad veterans, one of the first directors, Vojo Nikolic, said, "The disintegration of the Yugoslav economy and society began at one time with the railroads. I would be happy if this time the railroads announced a new stage for us -- the beginning of broader association both in the railroads themselves and also in the entire economy and in the entire territory of Yugoslavia."

Nikolic was forced to leave the railroad with two mutually exclusive burdens, of being a "bureaucrat and centralist" and of being the man who "dispersed" the Yugoslav railroad.

He was a general, the head of the military industry, and an undersecretary for national defense, when Rankovic invited him to his house in 1959. He suggested to him that he go to the railroad for 2-3 years and straighten out the situation: "The matter is very serious, and my door and Kardelj's are open to you at any time of the day or night!"

There was a General Directorate of Yugoslav Railroads, the director had the rank of federal minister, and self-management had started to be implemented "piecemeal" and in an ugly manner.

After the war, several new railroad lines were built, old ones were repaired, and some vehicles arrived from Germany on account of wartime damage. There was enough foreign exchange to keep the railroad lines operating and to some extent even to maintain them.

According to the draft for the Law on the Organization of the Yugoslav Railroads at that time, the enterprises were formed as technological and accounting units, so that an enterprise could be formed on the territory of several republics. Widespread electrification of the railroads had begun in Europe, and it was decided that a monophasic system would be adopted in Yugoslavia, as in France and Sweden. The Sezana-Postojna line existed in Slovenia, however, with a unidirectional system, as in Italy. No arguments of any kind were able to unify the country. The Slovenes said that they could not wait for the rest. The tensions continued even when the request of the railroads for the introduction of economical prices was rejected.

Vojo Nikolic spoke before the Federal Executive Council committee on the economy about the attempts to decentralize the Yugoslav railroads, and because of this Boris Kraiger accused him of being a "black bureaucrat." They exchanged fairly harsh words, but then everything was settled "easily." A scandal ordered by someone immediately broke out in the railroads: several officials in the Slovene railroads were accused of being foreign spies and were arrested, and the cause of several railroad disasters was never established.

Vojo Nikolic himself finally became involved in a conflict with the State Security authorities. It appeared to him that he had lost Rankovic's support, and he wanted to leave the railroad.

It was only then that the real disintegration occurred. It did not help much that the label of self-management opened all the doors to it. It was just that one strong center was replaced by eight even stronger ones -- hostile to each other!

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